



编著

新航道雅思

# 分达人 研发中心 雅思听力真题 还原及解析 6

# 2012年-2017年6套雅思听力真题

- ◎ 高度还原考题. 再现真实考场
- 这 名师指点迷津,还原听力真相
- 🗿 6套考前必做听力真题完整收录

全新真题

2017.4.8

Enquiring About Art Class

Time Measurement

2016.12.17

2016.9.24

2017.1.12 Talking About the Moa

2016.11.26

更多雅思考试资讯



9分达人温馨提示。 如果你在考试中恰好遇到 本书收录的某篇文章、请 按捺住内心的激动、细心 把题答完。

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Section 1 Questions 1-6 Complete the notes. Write NO MORE THAN THREE WORDS OR A NUMBER for each answer.

#### **School Excursion**

Day: <u>Wednesday</u> (Example)

Destination: 1.....

Weather: 2.....

Arrival time: 3.....

Activities Planned

See: 4.....

Eat: Catered lunch

Attend: 5.....

Return time: 6.....

#### Questions 7-10

Complete the table.

Write **ONE WORD ONLY** for each answer.

Nationality	%
7	26
8	25
9	16

- Indonesian	15
10	8
- Saudi	7
- Other	3

# Questions 11-15

Choose the correct letter, A, B, or C.

11. The company deals mostly with:

- A Big cities.
- B Nature holidays.
- C Nepal.

#### 12. The overseas consultants deal mostly with:

- A Asia.
- B North America.
- C Europe.

13. For deserts and gorges, customers should come in the:

- A Morning.
- B Afternoon.
- C Night.

14. Trips to regional locations are good because:

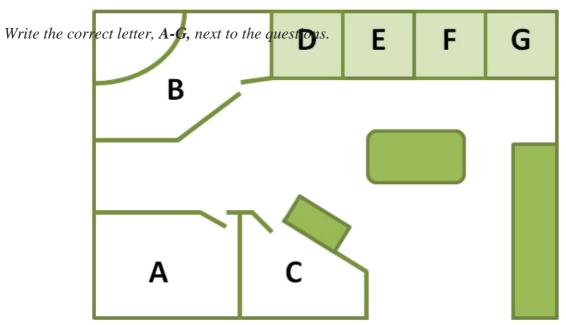
- A The buses are comfortable.
- B There is storage for suitcases.
- C They can be seen quickly.

15 SleekLine buses are particularly known for their:

- A Service.
- B Size.
- C Comfort.

Questions 16-20

Identify the rooms in the office plan.



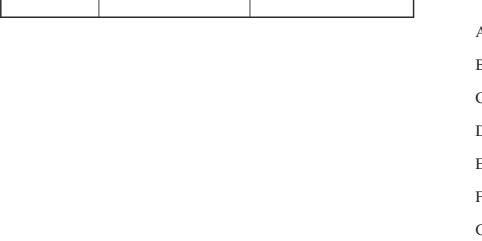
- 16. Local Tours.....17. Interstate Tours .....
- 18. International Tours.....
- 19. Asian Region.....
- 20. General Office.....

## Questions 21-24

Complete the timetable. Write the correct letter, **A-H**, for each answer.

	Morning	Afternoon
Monday	Opening Lecture	21
Tuesday	22	Study Skills
Wednesday	X	23
Thursday	X	X
Friday	X	24





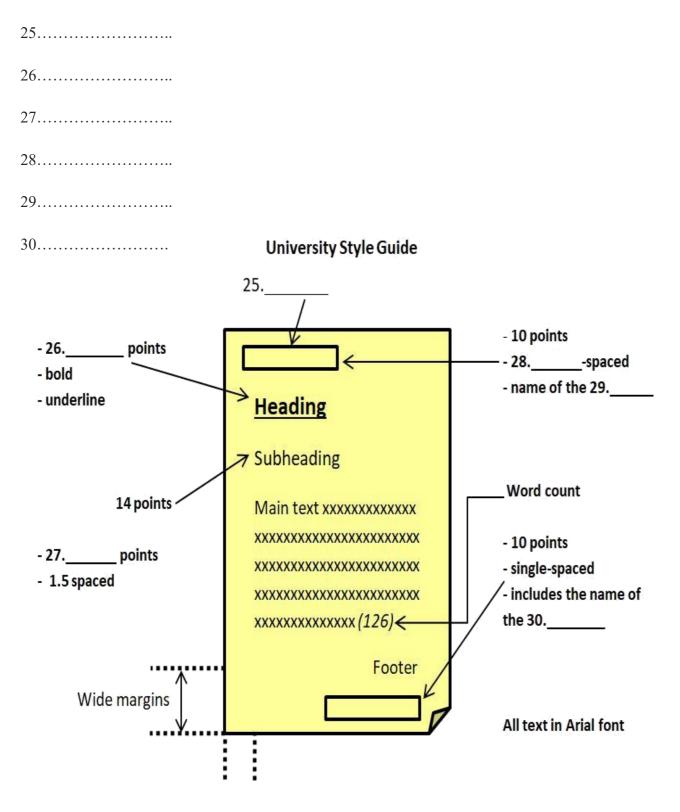
- A BBQ
- B Careers lecture
- C Computer lab visit
- D Dance
- E Library tour
- F Student Union induction
- G University tour
- H Legal rights lecture

## Questions 25-30



*Complete the labels.* 





#### Questions 31-34

*Complete the sentences.* 

Write **NO MORE THAN TWO WORDS** for each answer.

Behavior in parks is controlled by 31

Insect numbers are reduced by having 32 \_\_\_\_\_

A wilderness park does not have any 33

Observing trees and lying in the grass are examples of 34

#### Questions 35-40

*Complete the notes.* 

#### Write NO MORE THAN TWO WORDS OR A NUMBER for each answer.

PARKS		
1000 years ago	<ul> <li>sufficient wilderness</li> <li>large forests: people could 35</li> <li>desire to preserve nature began with 36</li> </ul>	
Princes Park	<ul> <li>land originally worth £37</li> <li>designed by Joseph Paxton</li> <li>in the middle was a 39</li> </ul>	
Neighborhood Parks	<ul> <li>now regarded as a 39</li> <li>satisfy a natural desire</li> <li>can be famous, e.g. in 40</li> </ul>	

#### Section 1

Questions 1-5

Complete the sentences.

Write NO MORE THAN TWO WORDS for each answer.

## <u>Example</u>

Peter consumes far too much soft drink

Peter and Mary's diet will be both sensible and 1.....

Every two months, they can eat 2.....

On Saturdays, they will go 3.....

This coming Saturday, they will go to 4.....

In every meal, there will be 5.....

Questions 6-10

Choose the correct letter, C, I, or B.

С	Chocolate
Ι	Ice cream
В	Biscuits

	Peter's opinion	Mary's opinion
Tuesdays	В	6
Thursdays	7	8
Sundays	9	10

#### Section 2

Questions 11-16

Complete the table.

Write NO MORE THAN TWO WORDS for each answer.



	Advantages of Stanfield Childcare Centre		
	1	2	3
Detail	Walls are 11	Teachers are able to teach a 12	They 13 surfaces daily.
Another Detail	includes the 14	There are many special 15	procedures to limit the spread of 16

Questions 17-20

Choose the correct letter, A, B, or C.

NB You may use a letter more than once.

Α	Andrea
В	Bella
С	Cathy

Which childcare worker:

17..... has her own children?

18..... often sleeps at the center?

19..... is good with shy children?

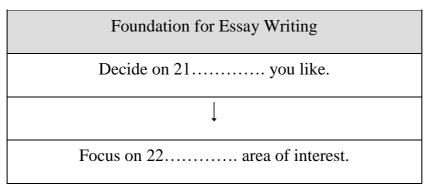
20..... is a good cook?

## Section 3

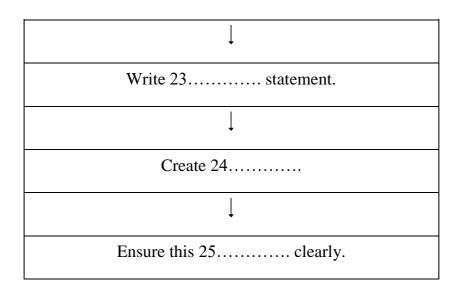
Questions 21-25

Complete the flowchart.

Write **ONE WORD ONLY** for each answer.







#### Questions 26-30

Complete the summary.

Write NO MORE THAN TWO WORDS OR A NUMBER for each answer.

There are several 26..... involved In producing a good essay. The writer must think independently and give 27..... examples as support, each one with a reference (which is a 28.....). The formatting must follow the 29..... issued by the university, as well as the word count decided by the lecturer, although it can vary by 30.....

#### Section 4

Questions 31-33

Choose the correct letter, A, B, or C.

#### 31 Geocentrism

- A. has a long history.
- B. is similar to heliocentrism.
- C. took some time to be deduced.

#### 32 Heliocentrism

- A. was realised only recently.
- B. was not generally accepted.
- C. fitted the views of the church.

# 33 The night sky

- A. is relatively simple.
- B. remains basically the same.
- C. was once used for navigation.

# Questions 34-40

Complete the notes.

## Write ONE WORD OR A NUMBER for each answer.

Nicolaus Copernicus	•	started the Copernican 34 his book published the year he was 35 and then passed away This book generated little 36
Other scientists	•	Galileo was persecuted. 38 was killed. even the sun believed to be in 38
Modern geocentrism	•	<ul><li>based on the 39</li><li>Believers also support creationism.</li><li>40 of Americans believe in this.</li></ul>

#### Section 1

Questions 1-7

Complete the form.

Write NO MORE THAN TWO WORDS OR A NUMBER for each answer.

Client Details
Name: Andrew Peterson (Example)
Educational Qualification: Degree in 1
Previous Job: 2
Hobbies: 3
Main Skills: 4
Expected Salary (\$): 5
Can start? 6
Other languages? 7

Questions 8-10

Choose **THREE** letters from the list, A-G.

Which THREE qualities do employers most value In their staff?

- A. Problem-solving skills
- B. Diligence
- C. Experience
- D. Flexible hours
- E. Independent thinking
- F. Good personality
- G. Qualifications

## Section 2

Questions 11-15

Answer the questions.

Write **ONE WORD ONLY** for each answer.

11..... What does the centre provide first?

12..... What is important to control?



- 13...... What will be used to assess member's fitness level?
- 14..... How often is the exercise schedule reviewed?
- 15..... How many exercise programs are available?

Questions 16-20

Write the correct letter, A-G, next to the questions.

Which place is best for

Α	jogging machines
В	Yoga studio
C	Weight units
D	Front-desk area
E	Squash courts
F	Shower blocks
G	Swimming pool

- 16..... developing confidence?
- 17..... reducing stress?
- 18..... building fitness?
- 19..... meeting others?
- 20..... finding information?

## Section 3

Questions 21-25

Choose the correct letter, A, B, or C.

- 21. The position needs someone good at
  - A. Computers.
  - B. Dealing with people.
  - C. Arts.
- 22. The directors will select someone from the faculty of
  - A. Arts.

- B. Computing.
- C. Business.
- 23. The position will require the person to
  - A. Work long hours.
  - B. Train others.
  - C. Do weekend work.
- 24. The position will come with a
  - A. Car.
  - B. Parking space.
  - C. Much better salary.
- 25. The best aspect of the job is it
  - A. Gives more responsibility.
  - B. Comes with a private office.
  - C. Is a step to higher positions

Questions 26-30

Complete the table.

Write **NO MORE THAN TWO WORDS OR A NUMBER** for each answer.

	Candidates			
	Steven	Abdul	Lek	Oscar
Years of Experience	26	7	8	12
Qualification	MBA	27	degree	Certificates
Possible Concerns	28	limited English	29	30

## Section 4

Questions 31-33

Choose the correct letter, A, B, or C.

31. Caves are

A. Often ignored.

- B. Mostly in remote areas.
- C. Often difficult to explore.
- 32. People who explore caves
  - A. Mostly need to know about cartography
  - B. Enjoy overcoming the difficulties.
  - C. Usually know about cave sciences.

#### 33. China has

- A. Probably the most undiscovered caves.
- B. A growing number of cave explorers.
- C. Some of the best documented caves.



Questions 34-40

Complete the table and notes.

#### Write NO MORE THAN TWO WORDS for each answer.

Three Main Reasons for Cave Formation			
Dissolution         Volcanic Lava Tubes         Action of Waves			
mainly involves 34	<ul> <li>topmost surface cools down and 35</li> <li>hotter lava continue to flow beneath</li> </ul>	waves pound in to cliffs then erode into 36 or less rigid rocks.	

Limestone caves	<ul> <li>often have formations made of 37carbonate</li> <li>e.g. stalactites, stalagmites, and 38</li> </ul>
e.g. Lechuguilla	<ul><li>finally revealed in 39</li><li>interestingly, formed from the 40</li></ul>

## Section 1

Questions 1-5

Complete the form.

Write NO MORE THAN THREE WORDS OR NUMBERS for each answer.

Survey Form		
Dealing with: <i>exercise</i> ( <i>Example</i> )		
Time contacted: 1		
Suburb: 2		
Age Group: 3		
Occupation: 4		
Family: 5		

Questions 6-10

Complete the summary.

Write **ONE WORD ONLY** for each answer.

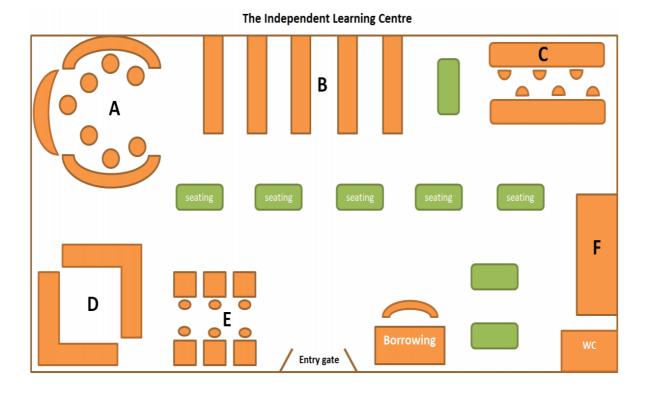
The subject undertakes exercise by regularly 6 She does yoga in order to relax
and 7 her muscles. When she was younger, she would 8, and in the future, she
may go 9 although that will depend on whether she has enough 10

## Section 2

#### **Questions 11-16**

Label the floor plan.

Write the correct letter, A—F, for each answer.



- 11..... Quiet reading
- 12..... Computers
- 13..... Newspapers & magazines
- 14..... Reference books
- 15..... Audio section
- 1..... Main library

Questions 17-20

Complete the timetable.

Write the correct letter, A-J, for each answer.

	9.00 to 10.30	10.30 to noon	Noon to 1.30	1.30 to 3.00	3.00 to 4.30	4.30 to 6.00
Quiet reading	А	D		С		D
Central seating	E	1			(	3
Audio Section		н			J	

# **ILC Special Sessions Timetable**

- 17.....Teacher-led discussion
- 18..... Writing skills
- 19..... On-call teacher
- 20..... Language exchange

## Section 3

Questions 21-24

Complete the summary.

Write **ONE WORD ONLY** for each answer.

One of the basic strategies when listening to lectures is to use 21...... This saves times, but it is only effective if they can be 22.....later. More generally, it is necessary to format the page in anticipation of the 23...... of the lecture. As an example, one can draw 24...., tables, and flowcharts, consistent with the way the subject matter is presented.

Questions 25-30

Complete the table.

Write **ONE WORD ONLY** for each answer.

Subject	Recommended Page Design
25Studies	flowchart, showing courtroom processes and 26
Culture Studies	table or spider graph, linking 27thoughts etc.
Management Theory	network (like spider graph but has 28)
Political Science	linear 29
Mass Media	just use 30

# Section 4

Questions 31-35

Complete the notes.

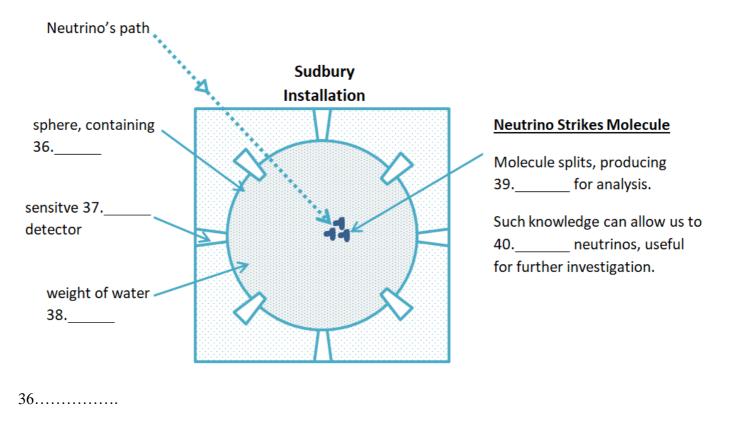
Write NO MORE THAN TWO WORDS for each answer.

Neutrinos				
• are everywhere			200 31pass through our every second.	
	1. the presence of other particles	$\rightarrow$	usually need a 32	
• are difficult to detect because of	2. the surrounding 33	$\longrightarrow$	detection location usually 34	
	3. challenge of installing equipment	$\longrightarrow$	engineering is very 35	

Questions 36-40

Complete the diagram.

Write NO MORE THAN TWO WORDS AND/OR NUMBERS for each answer.



37.....

- 38.....
- 39.....

40.....

# Section 1

Questions 1-5

Complete the notes.

Write NO MORE THAN TWO WORDS AND/OR NUMBERS for each answer.

Basic Details of Project			
Example Pre-phase	involves selecting rooms & 1		
Phase 1:	<ul> <li>time needed: 3 days</li> <li>staff involved: Jenna, Marco, &amp; 2</li> </ul>		
Phase 2:	<ul> <li>time needed: 3</li> <li>staff involved: 4, with assistance from 5</li> </ul>		

Questions 6-10

Choose the correct letter, A, B, or C.

- 6. The main form of data collection will be
  - A. questionnaires.
  - B. Internet polling.
  - C. face-to-face interviews.
- 7. To finish in time, the staff will have to
  - A. work late.
  - B. come in early.
  - C. take some work home.
- 8. The final report will contain
  - A. three appendices.
  - B. material from the company website.
  - C. a supplementary booklet.

9. The final report will be handed in on the

- A. 5th.
- B. 15th.
- C. 25th.
- 10. At the end, there will be
  - A. an office party.
  - B. a restaurant dinner.



C. presents for all involved.

# Section 2

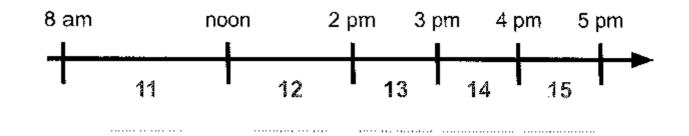
Questions 11-15

Complete the repair schedule.

Write the correct letter, A-F, for each answer.

Problems to Fix		
Α	Birds in ceiling	
В	Broken windows	
С	Electrical fault	
D	Fallen tree	
Е	Leaking roof	
F	Staining on walls	

Schedule of Repairs



- 11.....
- 12.....
- 13.....

14.....

15.....

Questions 16-20

Complete the sentences.

Write NO MORE THAN TWO WORDS for each answer.

Additional Details Concerning Repairs
The stained walls will be painted 16
Extra paint will be left in the 17
The baby birds will be given to a 18
The fallen tree will be used as 19
The smaller parts of the tree will be put in a 20

# Section 3

Questions 21-26

Complete the table.

Write NO MORE THAN TWO WORDS for each answer.

Subject	Textbook Used	Criticism of this book	
Social History	21	It is 22	
Cultural Studies	23	It 24	
25	Government in Action	It is 26	

Questions 27-30

Choose the correct letter, S, C, or P.

NB You may use a letter more than once.

S	Social History
---	----------------

- C Cultural Studies
- D Political Theory

What are the speakers' favorite subjects?

- 27..... Steve
- 28..... David
- 29..... Susan

30..... Olive

# Section 4

Questions 31-32

Choose the correct letter, A, B, or C.

- 31. Originally, country towns
  - A. required fewer workers.
  - B. had lots of animals.
  - C. were more interesting places.
- 32. Now, the problems there
  - A. can be solved.
  - B. are numerous.
  - C. are expected.

Questions 33-35

Choose **THREE** answers from the list and write the correct letter, A-F, next to the questions.

Which THREE factors are typical of modern farming?

- A. Many overheads
- B. More machines
- C. Fewer types of products
- D. More frequent feeding
- E. Greater numbers of products
- F. More factories

Questions 36-40

Complete the table.

Write NO MORE THAN TWO WORDS for each answer.

Possible Solution	Important Factor	Examples
tourism	Locals must 36	Daylesford area uses its 37
using the 38	<ul> <li>is 39 by its distinctive product</li> <li>must market the idea effectively</li> </ul>	Shepparton is known for its 40



## Section 1

Questions 1-6

Complete the table.

Write **ONE WORD ONLY** for each answer.

	Example			
	Name of new tenant: Anders			
	Good Points About Him Bad Points About Him			
Behaviour	He is 1	He is 2		
His Friends	His friends visit 3	They 4		
Other	He pays rent 5	He doesn't 6		

Questions 7-10

Complete the notes.

Write NO MORE THAN TWO WORDS for each answer.

<b>Issues to Discuss</b>		
Communication: 7		
Friends: 8		
Cigarettes: 9		
Cleaning: must 10		

# Section 2

Questions 11-17



Complete the sentences.

Write **ONE WORD ONLY** for each answer.

It is important for everyone to know simple first aid 11.....

After an accident, one must firstly be aware of 12.....

After that, the first-aider must 13.....

Clearing of airways may not happen when patients are 14.....

The mouth must be checked for 15.....

CPR must be done if breathing is absent or 16.....

CPR must be done up to the arrival of 17.....

Questions 18-20

Choose **THREE** answers from the list and write the correct letter, A—G, next to the questions.

Which **THREE** pieces of advice does the first-aid officer say are most important?

- A. Have proper equipment
- B. Give regular first-aid training
- C. Have a safety officer
- D. Instil safe behaviour
- E. Put posters on walls
- F. Have safety meetings
- G. Have first-aid boxes

#### Section 3

Questions 21-25

Choose the correct letter, A, B, or C.

- 21. Nicole received the best information from the
  - A. staff.
  - B. students.

C. cleaners.

- 22. The product used most wastefully was
  - A. copying paper.
  - B. plastic.
  - C. paper plates and cups.
- 23. The proportion of interviewed people who expressed concern over waste was
  - A. 30%.
  - B. 45%.
  - C. 55%.

24. The proportion who claim they take action over this problem was

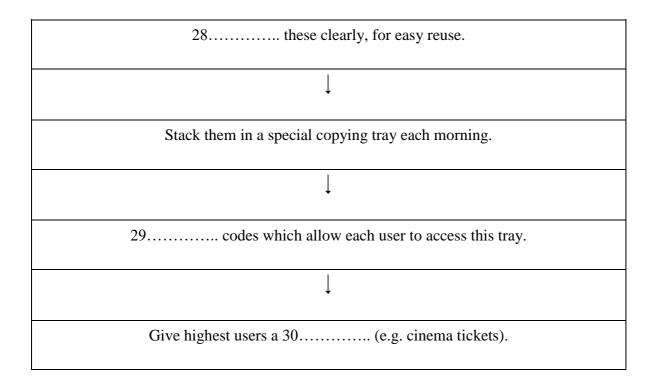
- A. 10%.
- B. one third
- C. one half.
- 25. Nicole thinks many people do nothing because they are
  - A. lazy.
  - B. uncaring.
  - C. uninformed.

Questions 26-30

Complete the flowchart.

Write **ONE WORD ONLY** for each answer.

Procedure to Reduce Copying Waste		
26that the staff do double-sided copying.		
Ļ		
Unwanted copies are 27 into a special recycling tray.		
$\downarrow$		



## Section 4

Questions 31-33

Choose the correct letter, A, B, or C.

#### 31. Society cannot

- A. find more coal and oil.
- B. reduce waste C02.
- C. take C02 from power stations.
- 32. Turning carbon dioxide into a solid
  - A. is slow but practical.
  - B. can be made faster.
  - C. cannot happen naturally.

#### 33. Seawater

- A. has lots of carbonic acid.
- B. has closely connected types of life.
- C. is highly acidic.

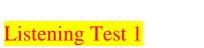
Questions 34-40

Complete the table.

Write NO MORE THAN TWO WORDS OR A NUMBER for each answer.

Three Problems of Geosequestration			
Risk of leaks	Cost	3still not proven	
Gas would	expensive, particularly	Require the plant to	
become 35	the 36	burn 37 of its coal	
$\downarrow$	$\downarrow$	$\downarrow$	
risk of	Price of electricity	release of more Sulphur, ash,	
widespread 38	could 39	and 40	

# **Answers**





ANSWERS				
1. (the) animal park	11. B	21. G	31. Regulations	
2. Cold and cloudy	12. A	22. E	32. Short grass	
3. 10.15 am	13. B	23. C	33. Development	
4. Birds of grey	14. C	24. A	34. Passive recreation	
5. (the) reptile display	15. A	25. Header	35. Get lost	
6. 6.30 pm	16. D	26. 16	36. Industrial Revolution	
7. Chinese	17. F	27.12	37. 50,000	
8. Japanese	18. B	28. Single	38. (central) lake	
9. Korean(s)	19. C	29. Work	39. Refuge	
10. Thai	20. A	30. Teacher	40. Melbourne	

ANSWERS			
1. Practical	11. Padded	21. Topic	31. A
2. Pizza(s)	12. Special skill	22. Current	32. B
3. (light) walking	13. Disinfect	23. Thesis	33. C
4. Pine Park	14. Corners	24. Outline	34. Revolution
5. Fruit juice	15. Learning toys	25. Progress	35. Sick
6. B	16. Germs	26. Aspects	36. Attention
7. I	17. C	27. Real-life	37. Bruno
8. C	18. A	28. Necessity	38. Motion
9. B	19. C	29. Style guide	39. Bible
10. I	20. B	30. 10%	30. 20%

ANSWERS			
1. engineering	11. consultation(s)	21. B	31. C
2. car salesman	12. diet	22. C	32. C
3. (play)(ing) chess	13. test	23. A	33. A
4. electronics	14. monthly	24. B	34. limestone
5. 1,200	15. three	25. C	35. solidifies
6. immediately	16. C	26.7	36. fault lines
7. (speaks) Spanish	17. A	27. MBP	37. calcium
8.A (IN ANY ORDER)	18. E	28. not stable	38. flowstone
9. E (IN ANY ORDER)	19. F	29. bad attitude	39. 1986
10. F(IN ANY ORDER)	20. B	30. health problems	30. bottom up

ANSWERS			
1. 20.25 (am)	11. A	21. symbols	31. billion
2. Box Hill	12. E	22. interpreted	32. clean room
3. 30 to 39	13. D	23. nature	33. radiation
4. domestic duties	14. F	24. headings	34. (deep)
			underground
5. married, no	15. C	25. Legal	35. complex
children			
6. walking	16. A	26. procedures	36. heavy water
7. tighten	17. E	27. associated	37. electronic
8. hike	18. C	28. directions	38. 1000 tons
9. swimming	19. I	29. notes	39. electric current
10. energy	20. F	30. headings	40. control

ANSWERS			
1. equipment	11. E	21. Welfare State	31. C
2. Fred	12. A	22. too long	32. C
3. 6/ six days	13. D	23. inperspective	33. B(in any order)
4. Mike	14. F	24. oversimplifies	34. C(in any order)
5. Leo	15. C	25. Political Theory	35. E (in any order)
6. C	16. yellow	26. not relevant	36. participate
7. A	17. garden shed	27. C	37. natural springs
8. C	18. wildlife reverse	28. S	38. local product
9. B	19. firewood	29. P	39. characterized/
			characterised
10. C	20. garden bin	30. P	40. mature cheese(s)

ANSWERS				
1. quite	11. steps	21. C	31. B	
2. impolite	12. danger	22. A	32. B	
3. rarely	13. respond	23. B	33. B	
4. smoke	14. unconscious	24. C	34. effectiveness	
5. promptly	15. blockages	25. C	35. (a) liquid	
6. co-operate	16. irregular	26. ensure	36. pipework	
7. attend meeting	17. medics	27. deposited	37. a quarter/ one quarter/ one-quarter/ <sup>1</sup> / <sub>4</sub>	
8. follow rules	18. C(in any order)	28. display	38. suffocation	
9. strictly forbidden	19. D(in any order)	29. distribute	39. 9 (almost)double	
10. be done	20. F (in any order)	30. reward	40. heavy metals	

# **Tape Script**

### Listening Test 1



#### **SECTION 1**

You will hear two teachers, Andrew:and Katie, discussing the coming excursion of their language class.

Andrew: Well, we have this school excursion planned, but when exactly is it? Is it this Tuesday or Wednesday?

Katie: Well it can't be Tuesday, with the English tests taking place.

Andrew: Ah, right. Not Tuesday, but Wednesday.

Katie: That's right - all day Wednesday - taking a bus outside the city.

Andrew: And where are we going?

Katie: Ah, last month we went to Arthur Island, so this time we're going to Q1 the... Animal

#### Park.

Andrew: Arthur Island was okay, but it was too cold. Let's hope the weather for this week's

excursion is better. I don't suppose animals care about bad weather, but I certainly do. Have you heard the forecast?

Katie: Yes, and it's not too bad. Basically, they're saying Monday will be sunny.
Andrew:Good...
Katie: But then the weather will change.
Andrew: Not so good.
Katie: Yes, Tuesday we'll have some showers, but by Wednesday, the day of our excursion, it will be... well, their words are ' Q2 cold and cloudy'.

Andrew: Cold and cloudy. Well, as long as it isn't 'wet and rainy', I'm happy enough. We won't

need umbrellas, just warm clothing. And what time will we get there?

Katie: Let's see. The bus picks us up at 8.30 am, and then it's an hour and a half on the road, so we arrive at 10 am... sorry, with the 15 minutes break, that will actually be **Q3** 10.15 am.

Andrew: That's early enough. Then all our students can see the animals, have their fun, and do

whatever they want to do.

Katie: Well, one fun event planned that day is ' Q4 Birds of Prey'.

Andrew: What's that?

Katie: That's when they bring out several birds of prey: eagles, falcons, kites, those sorts of birds,

and throw pieces of meat into the air, and the birds swoop down and eat them. It's quite

impressive.

Andrew: Sounds great. 'Birds of Prey'. Are there any other activities?

Katie: There's a catered lunch, at the park restaurant. We've already paid for that, and in the afternoon there's... well, I had a choice between the 'Reptile Display' and the 'Koala Handling'. In the reptile display, the students can handle live pythons and various other snakes. Andrew:Surely they'd rather hold koalas?

Katie: I'm sure, but the koalas can't be handled unless the weather's sunny, and given the

forecast, I thought it better to choose  $\mathbf{Q5}$  the reptile display.

Andrew:Ummm, that's a shame. These Asian students would love the 'Koala Handling'.

Katie: Yes, I know, but we can't control the weather. Andrew: And,

then we get back. What time will that be?

Katie: We leave the park at 4.30, but then we face traffic, so wo won't get back until well after 6 pm. It will most likely be **Q6** 6.30. But that's better than the last trip: we didn't get home until 8.30 that time.

Andrew: Yes, that was a bit too late, wasn't it?

Katie: Andrew, I understand you've been doing some research regarding the breakdown, by nationality of our student body. That must have produced some interesting results.

Andrew: You're right. I got some statistics from head office.

Katie: I would imagine that most of our students are either Japanese or Chinese.

Andrew: You imagine right. But it's the **Q7** Chinese who constitute the majority, but only just. I had thought Koreans might be second, but it's actually the **Q8** Japanese, quite close behind. It's somewhat surprising, but obviously all those Study Tours that our university markets in Japan are bringing in students.

Katie: What's the breakdown exactly?

Andrew: Japanese are a quarter of the whole, which is considerable. Last year they were only 16%, so that market has grown nicely. Ah, the only other proportions of some weight are the Indonesians and Koreans - about the same.

Indonesians at 15%, and... ah... the **Q9** Koreans are a little higher -not like last year when they were less than 10%.

Katie: I thought we'd have more Indonesians than Koreans?

Andrew: Well, as I said, they're about the same - just like the Saudi and Thai student numbers, almost the same also - both just under 10.

Katie: Which one is bigger?

Andrew: Ah, **Q10** Thai students number just a fraction more. As for the other nationalities, collectively they're only 3%, so it wasn't worth giving each of them a separate category. I just grouped them under 'other' - that's Vietnamese, South American, a couple of Russians, and so on.

#### **SECTION 2**

You will hear a representative from EasyTravel Travel Agency explaining to some customers the benefits of her company.

Hello everyone. Now, you're here because you're interested in travel, right? And you're in the right place, for at EasyTravel, we have the best deals for the best locations. We specialise in eco-travel, or holidays designed to get you **Q11** amongst nature, ignoring the hustle and bustle of big cities. So, whether you want to hike in Nepal, as many people do, or follow some jungle paths in the rainforests of Queensland, we can give you the best deal.

If you look at our office here, you'll see our overseas consultants. That's for trips overseas, obviously, to Europe, to North America, but primarily for the Asian market, which is **Q12** generally more popular in this part of the world. Most people like that touch of the orient, right? But they also like the domestic market, since this country offers its fair share of beautiful natural vistas. What about the deserts, anyone? What about some striking red-rock gorges? Then, talk to our domestic consultants, who can arrange anything you want. But they deal with the accounts in the morning, so you'll need to talk

to them in the **Q13** afternoon. And remember, our office doesn't open at night, sorry to say. Now, around the outskirts and outer regions of this city, there are many beautiful places that you might not be aware of. And the advantages of these regional locations are many. Mostly, by being closer, some of them can be done in a day tour. Yes, it's **Q14** fast and convenient, with none of those long-haul bus trips which often leave you cramped and uncomfortable, and stuffing heavy suitcases into luggage racks.

But, I should tell you about our buses, those that are needed for the somewhat more distant holiday destinations. They definitely do not suffer from those problems I just mentioned. We use the services of the famous Sleek Line Company, whose buses are known as the very best. Yes, they are big, yes, they are comfortable, but what makes them especially different is the personal attendant, who accompanies the driver, ready and willing **Q15** to serve you , and ensure that your trip is the very best. So, whether it's overseas or local, we can certainly give you what you want. Now, do you have any questions?

Right, let me orient you to our main EasyTravel office here. On this table right beside us are travel magazines for you to browse through, and on the wall next to that are many more, for all parts of the world. Our four travel consultants sit over there, on the other side of that long counter. That's right, four of them, side by side, all serving various regions.

Now, let me tell you their specific functions. Firstly, the consultant on the left, next to the plant, is the **Q16** 'Local Tours' consultant, serving tours in the immediate vicinity of this city. Next to her is what we call 'Regional Tours', targeting the state-wide options. -Next- to her is the '**Q17** Interstate- Tours', and that can involve either buses or planes, in the former case, utilising

the SleekLine Bus service, as you know. And finally, next to her, in the corner, is 'General Enquiries', which is self-explanatory. If you have questions of a general nature, rather than one relating to specific destinations, you can go there.

Now, as I said, we can do international tours, and for that you need our big office, just through that door - the one **Q18** between those two plants. However, if your international tour is in the Asian region, which is generally our most popular option, then we deal with that in a separate room the one opposite International Tours, but not; the corner one. Just go through that door on the left - the one **Q19** next to that cupboard. The door next to that is, in fact, our **Q20** General Office, so please don't go through there. That's reserved for staff members only.

#### **SECTION 3**

You will hear two students, Sam: and Liz, discussing their university orientation program. Sam: Hi Liz. How do you feel about starting university here?

Liz: A little bit nervous, but I'm confident I can handle it. This orientation program seems like it will help us a lot.

Sam: Sure. I'm looking at the timetable here myself. It seems that there are choices available. Liz: I can see. So, what are you going to do Monday afternoon? In the morning we all have the opening lecture, but it looks like we have a choice later that day, as you said.

Sam: Well, the 'Careers Lecture' might be helpful, but I am interested in the 'Uni Tour'. It's probably too early to be thinking of careers now, anyway, and I want to know what's what at this new university, so. I'm **Q21** doing the tour.

Liz: Alright. I'll come along with you. Might learn something interesting. After all, we haven't seen much of this place yet, and we will be spending four years here.

Sam: Tuesday is another full day, too. In the afternoon there's a lecture about study skills, but that morning offers another choice.

Liz: 'Library Tour' or 'Student Union Induction'. What do you think?

Sam: I think the student union is very important, but we can go there any time, right, so we should take advantage of the library tour while it's being offered. Maybe the week after, you and I can go to the student union.

Liz: **Q22** Library it is, then. Now, Wednesday has a free session in the morning, but after lunch there's a choice between visiting the computer lab, or attending a lecture on our legal rights.

Sam: Well, law and rights are important, but computers are the basis of everything these days, so I'm going to the **Q23** computer lab.

Liz: Don't you think knowing our legal rights is equally, if not more, important? We live in a very litigious and complex society now.

Sam: Sure, but it's something we can pick up later, so let's leave that one out. Liz: Okay.

Sam: Let me see the timetable. Thursday is a free day, and the week winds up with some celebrations on Friday afternoon. It looks like a fun choice, too. There's either a Q24 BBQ on the main lawn, or the dance.

Liz: I never pass up the chance to eat something. What about you? Sam: If I can get a free meal, I'll take it any day, and I'm not good at dancing anyway.

Liz: Well, that's that decided. Right? Sam: Right!

Sam: Guess what Liz? There's another interesting thing in this orientation booklet, and it looks important -about a 'style guide'.

Liz: What's that?

Sam: Take a look yourself. It seems to be a set of rules regarding how to present written work - essays, and that sort of thing - to the lecturers. They want a uniform style of presentation.

Liz: I can see. So, everything we hand in must have a header and a footer. Sam: A what?

Liz: A header and a footer. The footer is at the bottom of the page, and the **Q25** header is at the very

top. That's why they call it a 'header', you know, that little bit of writing giving details about the

work. And they also want the word count. Why do they need that?

Sam: I guess because the lecturers will specify the number of words they want for their assignment, and they want to be sure students follow this.

Liz: And even the heading on the page has to be a specific dimension. **Q26** 16 points, and bold print, and underlined.

Sam: And subheadings are 14 points, and the font has to be Arial for everything.

Liz: Yes, the main text is Arial, too, as you said, and the size is **Q27** 12 points, with the header and footer being slightly smaller, at 10 points each. Well, it seems logical. The size of everything is in proportion to its importance, but why do they need the spacing of the main text to be one and a half? The header and footer are different. They're only **Q28** single-spaced.

Sam: Probably to allow the teacher to insert comments, or corrections, or just to make it all more readable, I suppose.

Liz: And we need wide margins on the left, right, top, and bottom, probably for the same reason. Lots of space to allow the addition of comments. That's a bit scary, actually. It seems to assume we will be making mistakes.

Sam: And look what they want in the header and footer. The header has the name of the **Q29** work. Liz: Not the name of the teacher?

Sam: No, the work, but surely the Q30 teacher's name must go somewhere.

Ah, here it is. It goes in the footer.

Liz: Okay, I'd say this is all logical. If a page is lost, say, falls to the floor, then with all this

information, it can always be traced back to the teacher involved.

Sam: Right - as you say, all very logical.

#### **SECTION 4**

You will hear a lecturer discussing public parks.

Most of us are familiar with a local park. We spend time there, play there, and have some of our best memories in these places. But what is a park? Basically, it can be defined as a natural, or at least semi-natural, piece of land, planted with a variety of trees, bushes, and flowers, protected and reserved for

the enjoyment of all citizens. There are usually **Q31** regulations about the sorts of behaviour that can take place within. And sometimes there are facilities such as children's playgrounds, or fields for ball games and other sorts of activities. For this reason, if there is **Q32** grass, it is kept **Q32** short, and this also discourages the breeding of insect pests. A well-maintained park actually needs a lot of people to look after it, and more so if the park showcases special plants, flowers, or trees, in which ease it is called a 'botanic garden'. In complete contrast, if the park is big and remote enough, it is sometimes designated as a wilderness park, to be left completely alone and untouched, protected from all **Q33** development in order to allow wild species, both plant and animal, to live undisturbed.

But it is the urban park - the sort of park that most people are familiar with, that I want to talk about now. These preserve natural landscapes for the pleasure of the urban population, most commonly just for passive recreation - in other words, allowing people just to observe the trees, and lie in the grass, and such **Q34** passive recreation is certainly needed.

Continuing on the subject of parks, it might surprise you to know that once there were none. A thousand years ago, there was no need, since there were already extensive open spaces, forests, and wilderness surrounding most cities and towns - for example, in Europe. These dark dank forests were large and even dangerous, full of wild animals and with the potentially fatal result of **Q35** getting lost. Hence, fairy tales evolved about witches living in these areas, and the wolves and bears, which could threaten young children.

However, with the rapidly increasing human population, the original wilderness and natural open spaces were intruded upon. Forests were cut down as populations spread, and with them, urban pollution and further deforestation. But it was only with the advent of the **Q36** Industrial Revolution that people

realised natural areas needed to be preserved, to give the populace access to the sort of nature that was fast disappearing due to the uncontrolled development and demand for resources.

The first park, expressly designed for that purpose, is usually considered to be Princes Park in Liverpool. This was in 1841, on land donated to the public by a rich iron merchant. With such a generous donation (worth about **Q37** £50,000), the council decided to invest £5,000 of its own money in making it look good. Consequently, they hired a landscape designer, Joseph Paxton, who designed twisting turning pathways among shade-giving trees, all based around a **Q38** central lake. In many ways, it became the prototype for all later large parks, including the famous Central Park in New York.

But, if we were to pick the park that most people are familiar with, it would be the much smaller neighbourhood park. These can be tiny, but, by being in the midst of extensive development and dense populations, they are increasingly seen as a **Q39** refuge, where one can get a glimpse of true nature. Many psychologists now maintain that this glimpse is necessary, for ultimately, as a species, we have an innate affinity for nature, and the concrete urban zoo clashes with our inner being. This has seen the rejuvenation of many urban parks that were once left to decay, for example, in New York or London, and indeed, some cities, such as **Q40** Melbourne, are known all over the world for their abundance of carefully maintained parks, including a world famous botanic garden.

# Listening Test 2



### **SECTION 1**

You will hear two students, Peter and Mary, discussing their new eating plan. Peter: Okay Mary, I know I'm putting on weight with all my bad eating habits. Mary: That's right. Chocolate bars, pizzas, and all washed down with litres of soft drink. And with all the sugar in soft drink, I think we can say you're definitely overindulging, don't

you think?

Peter: I know, I know. I intend to definitely stop drinking that from now on.

Mary: And that's part of the sensible eating plan that we have agreed we need to formulate—one that we can both follow.

Peter: That's right, sensible, and **Q1** practical — allowing us to indulge in some sweet foods on occasions.

Mary: On rare occasions, and we're going to cut out all the Q2 pizzas and hamburgers.

Peter: Well, not totally. I thought you said pizzas could be eaten once a week. You know how I like pizzas.

Mary: No. I said once every two months. Once a week was ice cream, not pizza.

Peter: Yeah, that's because you like ice cream. I prefer pizza.

Mary: Peter, if you want to lose weight, you need to be disciplined, in both what you eat, and what you do, which brings us to the issue of exercise.

Peter: That's right. So, jogging twice a week, and hiking on Saturdays, right?

Mary: No, hiking is Sundays, allowing Saturdays for the **Q3** light walking exercise. I've investigated, and discovered there are a lot of walking trails around this suburb, with many

beautiful places if you just look around.

Peter: So what's happening this Saturday? A walk around the city?

Mary: That's later in the month. This Saturday we'll visitQ4 Pine Park.

Peter: Hill Park is nicer, with great views, too,

Mary: Yes, but we have to travel too far to reach Hill Park, so I ruled that out, and I love the smell of pines.

Peter: And what about the weekday meals? Salads every night, I suppose?

Mary: No, it's important to vary the meals so that the food remains interesting and fun.

The only common factor is the **Q5** fruit juice, but otherwise we'll have a variety of healthy fare,

from salads, to fish, to lean meat.

Peter: I'd rather have meat every night, but you're the boss.

Mary: If you want to lose weight, you'll have to accept this program, okay?

Peter:Okay.

Peter: Now Mary, you said we could have a little treat in our diet plan three times a week: specifically, Tuesdays, Thursdays, and Sundays.

Mary: Yes. A very small treat, but something to reward us for all the discipline shown. Such

rewards will motivate us to continue the diet.

Peter: So, on Q6 Tuesdays, what can I choose?

Mary: You have a choice between a small serving of chocolate, ice cream, or biscuits.

Peter: Okay, well, I'll go for the biscuits. I love those crunchy little things with my cup of tea. So do you, right?

Mary: I do indeed, so I'll have them, too, saving the ice cream for later.

Peter: But I know how much you like ice cream, so why don't you save it for the end of the

week? That will give you the motivation to keep going, and you can have chocolate midweek?

Mary: That's a good idea, but I think the most important thing is for you and I to eat different things on those other two days.

Peter: Well, if you think that way, I'll eat the **Q7** ice cream on Thursdays, not the chocolate. Okay?

Mary: Well, if you're having that, then I can't have ice cream. In order to be different, **Q8** I'll have the chocolate.

Peter: So, we can compare our different snacks, and maybe even share a little with each other.

Mary: Exactly! And the variety and fun involved will take our minds of wanting more.

Peter: Eating for fun! A good idea!

Mary: And then you can have the chocolate Q9 on Sunday, right?

Peter: But I like biscuits? Actually, I want biscuits again—to have with my cup of tea.

Mary: But you have the biscuits on Monday, remember, and we can't repeat.

Peter: Ah come on! This isn't fixed in concrete. I can have them again instead of chocolate. You might like variety, but I don't. I'm a creature of habit.

Mary: Well, the whole point of this was to taste different snacks, but if you want the same

thing, okay. I, for one, am sticking to the original plan, **Q10** with ice cream to finish the week, and not another dose of chocolate.

### **SECTION 2**

You will hear a childcare worker telling some mothers about the advantages of her centre.

Helto everyone, and welcome to the Stanfield Childcare Centre. Now. I know you're all new mothers, and you like to cling to your children. You've certainly spent a lot of time raising them to the age of four and are perhaps reluctant to leave them here at our centre. Well, one of the first things you should understand is that here it is safe — very sale. Look

around and you'll see that every room has **Q11** padded walls. Other centres have standard painted walls, but here, we have invested a lot to ensure your children will not hurt themselves when running around and possibly tripping over. This padding extends around all **Q12** corners — that is, the areas most likely to bruise and cut your active little child. So, you can rest assured that any accidents of a physical nature are not likely to happen here.

Now, you don't want to dump your child at this centre and let them waste their lime. You want them to learn, and that's one of the greatest assets of our establishment. Our staff are not only trained childcare workers, but all of them have a **Q13** special skill, which they can imparl to your child, whether it be teaching the ABC, some basic mathematics, artistic skills, or physical education. We are particularly known for our pre-school literacy program and have a wealth of **Q14** learning toys, specially designed to develop your child's potential.

Of course, one concern many mothers have is that, in environments such as these, colds and flus and other viral nasties can be easily spread around. It's a very legitimate concern, and one which we take seriously, and we pride ourselves on our precautions. For a start, unlike most centres which clean with standard detergents, we **Q15** disinfect every surface at the end of every day, using a special disinfectant wash. Some places just wipe surfaces daily with a damp cloth, but not us. And that's just the start. We also physically check your children when they arrive every day, and if we feel your child is sick, we ask him or her to wear a face mask to ensure **Q16** germs are not transmitted. If your child is noticeably sick, then we ask you to take them back home to recover. This might sound a little unkind, but we hope parents can understand that these measures are for the benefit of all.

Now, at Stanfield Childcare Centre we have excellent childcare officers, and let me briefly introduce them. We have Susan, Andrea, Bella, Cathy, Lisa, and Liz. They're all fully trained and come with some individual assets which make them even better. Bella, for instance, knows children very well, having worked here for five years, and **Q17** Cathy has her own family — two little girls — so she can talk to you with first-hand knowledge of what it's really like to raise children. But getting back to Bella, she often relaxes here after work, spending long hours chatting to parents, as does Cathy in fact. But in terms of hours, nothing can compare to **Q18** Andrea, who will sometimes spend the night here, staying in our overnight room. Why? Because this centre is very friendly, and simply a great place to be. Bella, for example, used to be quite shy herself but now is marvelous with the little kiddies, as outgoing as any of them. We let **Q19** Cathy, though, deal with the particularly quiet and introverted children, since having her own family, she knows what can really bring them out.

Of course, what better way to do this than with yummie homemade cakes, and Cathy often gets these from **Q20** Bella, who can make some of the best in town . Yes, everyone here brings something special, which is why we're one of the best childcare centres in the business.

#### **SECTION 3**

You will hear a student, Eric, talking to his lecturer,

Ms Harris, about essay writing.

Eric: Hi, Ms Harris. Here we are, talking once again.

Ms Harris: Well, I'm always willing to help out wherever possible. Is anything troubling you?

Eric: Well, your advice last week about writing summaries was very useful, and I'm using these summaries a lot in order to prepare my final master's thesis.

Ms Harris: But you're having problems, right?

Eric: Yes, I have a few issues to discuss. Obviously I want a good essay, and I want to achieve high marks. But I'm not sure on the best way to start.

Ms Harris: That's an easy question. Start with a **Q21** topic, but not one that I necessarily suggest, but one that you want to explore. You will always write better when doing so on a topic you are interested in, not one imposed upon you by others.

Eric: Well, I'm interested in management theory.

Ms Harris: Then pursue that. However, that alone is far too broad. Break it into various **Q22** current areas of discussion and relevance, then look more carefully at one of them — say, management and cultural differences, or management and motivation, or

other aspects, such as the role of salary, group cohesion, or leadership.

Eric: I would say I'm interested in group cohesion—that is, how people interact in the workplace.

Ms Harris: Well, that's a start, but you can't then just write planlessly, without defining exactly what you intend to do within the area you've chosen. You'll have to think of a **Q23** thesis, and this statement could be of several types.

Eric: Such as what?

Ms Harris: Oh, you could argue a point, something that you believe in; or discuss an issue, looking at its various perspectives; or critique the opinions of others, pointing out the pitfalls and flaws. The thesis statement will make that very clear because it will say, in simple terms, what you intend to achieve in your essay.

Eric: I see. And then I can just begin writing, right?

Ms Harris: Wrong! [Uh?] If your essay is going to be clear, it needs to be logical and organised, and this means you'll need an **Q24** outline. This could be written as a flowchart, or spider graph — that is, a series of connected lines, but whatever shape the outline takes, there must be a sense of **Q25** progress, in, more or less, a straight line, towards a goal.

Eric: And then my essay will be good?

Ms Harris: With such progression, definitely—as long as you do achieve everything that you set out to do, as specified in the beginning, okay?

Eric: Well, Ms Harris, your advice about essay writing all sounds very useful: solid, and step by step, so I'll certainly follow that. But can you tell me in more general terms, what constitutes the best essay?

Ms Harris: Oh, there are many **Q26** aspects to consider, but one of the most important is certainly, original thinking. The best essays are written by people who think for themselves, and not just copy or imitate established views.

Eric: I think I can do that.

Ms Harris: But remember, you can't just give a list of unsupported assertions. There needs to be support as well — a chain of logic linking each step in your argument.

[Right] Yet that alone is not enough. Your argument may be logically sound, but is it practically so? For that, you need examples, from **Q27** real-life, to illustrate your points or sub-points.

Eric: I've got lots of examples from my course readings. I suppose I could use them. Ms Harris: But remember, whenever you use an example, or facts or figures that are not commonly known, you must give a reference. That's an academic **Q28** necessity, without which your writing will automatically fail.

Eric: So, it's necessary to give these. Right.

Ms Harris: Absolutely—and with that, your essay will be fine, but always ensure that you format it clearly.

Eric: What do you mean?

Ms Harris: I mean the practical considerations, as written in the university **Q29** style guide, such as leaving appropriate margins, using double spacing, Arial font, and so on. You see, your writing must look good, as well as be good.

Eric: I can certainly do that.

Ms Harris: And, finally, related to the previous point, you need to respect the number of words required. Your individual lecturers will give you a word-count figure, so follow what they say, making your essay neither too long, nor too short—perhaps **Q30** 10% either way should be acceptable. 15% was common when I was younger, but it's a lot stricter now, and 20% would be pushing the boundaries just a little too far. Eric: I guess I can do all that. Thanks for your advice.

### **SECTION 4**

You will hear a lecturer discussing the history of people's beliefs regarding whether the sun, or the Earth, is at the centre of the solar system.

In the night sky, the stars appear to revolve around the Earth, rising in the east, and disappearing in the west. The Earth itself seems solid, fixed, and stable, and such common sense perception suggests that the Earth is the centre of the universe. This is known as 'geo' 'centrism', with geo meaning Earth, and **Q31** all pre-modern civilisations drew this conclusion. We now know, of course, that the Earth revolves

around the sun, and this is called 'helio' 'centrism', with helio meaning sun, but historically, it took quite a while for this to be deduced.

As early as the third century BC, an ancient Greek astronomer, Aristarchus of Samos, proposed heliocentrism, but received little support from his peers. Similarly, throughout subsequent history, isolated individuals proposed this new idea, Q32 but again, no one was listening. Geocentrism just seemed too logical to refute. Geocentrism also fitted the views of the established Christian church, who could quote biblical passages such as 'the world also shall be stable, that it be not moved'. Those who dared disagree were subject to accusations of heresy, often with dire punishments to follow. The trouble was, as the night sky was observed more closely, that simple revolution of the stars proved not so simple at all. In relation to the others stars, some steadily wandered in given directions, then sometimes reversed for months, and disappeared altogether. They were called planets, meaning 'wanderers'. In addition, the position of the sun and moon altered slightly over the year, and comets, those mysterious glowing spots, would come and go. In order to predict the motion of the planets, and accurately Q33 serve the primary purpose of navigation for sailing ships, increasingly elaborate mathematical models were needed—a sure sign that something was not quite right. Heliocentrism, or the belief that the sun is the centre of the solar system, still needed a mathemalically-sound description before it could be scientifically accepted, and it was a Polish astronomer, Nicolaus Copernicus, who, in 1543, first published this. This event is sometimes referred to as the Copernican Q34 revolution. Copernicus himself certainly feared the consequences of his proof, knowing full well it might invoke the anger of the established church. Probably for this reason, he wailed until the last year of his life, when he was Q35 sick and dying, to release his findings. In addition, the preface of the book, written by a respected member of the church, staled that the model was not necessarily correct. As a result of this, there was no 'revolution" whatsoever—in fact, the book received scant Q36 attention in the subsequent decades, apart from a few irate clergy men who angrily dismissed the whole scheme as irrelevant.

Yet the following generations of astronomers did not always fare so well. The Italian

scientist, Galileo, got into trouble, as did a fellow Italian, with the surname Bruno, Giordono Q37 Bruno. who was burnt at the stake, yet ultimately, nothing could slow the spread of heliocentrism across Europe. It formed the basis of Isaac Newton's great work on the motion of the planets — a work which implied that even the sun. around which the Earth circled, was itself in Q38 motion around a common centre of gravity. No discourse about heliocentrism could finish without mentioning that, somewhat unbelievably, there still exists those today who choose to believe that the Earth is the centre of the universe. Modern geocentrism is usually the result of literal interpretations of the Q39 Bible, which is the cornerstone of these people's beliefs. They, therefore, also believe in creationism -- that is, that a God created everything, and while we may smile at this, it is sobering to consider that surveys have revealed that up to 10% of British people, 12% of Europeans. Q40 20% of the ESA, and 25% of the Middle East, still hold the belief that the sun revolves around the Earth. One can only wonder what Copernicus would have thought of this.



# **SECTION 1**

You will hear a young student, Andrew, ringing an employment agency, enquiring about their services.

Andrew: Hello. Is this the Triple A Employment agency? .

Woman: Yes.

Andrew: Hi. I rang before. My name's Andrew. Andrew Peterson. I rang you earlier and gave you my personal details. If you remember, I'm that student looking for work during the summer holidays.

Woman: Oh, sure. Actually, I have your file right here. But... we still need to add some further information.

Andrew: Yeah, that's what they told me, and that's why I'm ringing. What do you need to know?

Woman: Well, we have to know your main level of education. It's a degree, I suppose.

Andrew: Yes, but I'm still doing it, in engineering. It's quite interesting. Some of my friends are studying computing though, so I'm interested in that, also.

Woman: Well, I'll just write in your main degree subject. Engineering. We usually have a demand in computing though. Have you worked with computers before? Andrew: No. I just do some programming for fun at the university, but I almost got a job as a computer designer once. Actually, the only job I've ever had was as a car salesman, believe it or not.

Woman: Well, at least you've had experience dealing with customers. What about hobbies though? Sometimes they can help develop useful skills.

Andrew: Ummm ... in my free time I don't do much — mostly study. I play chess occasionally at the university chess club. That's right next to the tennis courts, but I'm not interested in that.

Woman: Chess helps develop analytical skills, so I'll put that down. Of course, it's your main skills that employers want to know about. What would you say they are?

Andrew: Well, I'm in my third year now, studying electrical machines and generating systems, but I'd say electronics is my best skill— much better than, say, my machine skills, which aren't so good, actually.

Woman: Okay ... machine skills are in demand, but so too are electronic ones, so we might be able to find you a part-time job in that field. But what sort of money do you expect to got?

Andrew: Oh, anything really. I'd want the standard payment, let's say. What's normal? 1,000 a month? 1,500?

Woman: I'll just put \$1,200, okay?

Andrew: That's fine by me.

Woman: When can you start? Say, within two days?

Andrew: Easily! Actually, less. In fact, just give me a ring, and I'll be able to start immediately, although I admit it'll take me a few days to get used to getting up early in the morning.

Woman: Okay! That's just about it, unless you'd like to add anything else which may help with your application?

Andrew: Ah, not really. I ride a motorbike, but that's unimportant. I'm friendly, but every applicant claims that, right? I can speak another language.

Woman: Ah, that might be useful, depending on the language. Is it Chinese? A Chinese speaker would go down well.

Andrew: Spanish, I' m afraid. You see, I grew up with some friends who came from South America.

Woman: Okay, I'll write that down, but I don't think it will help that much, sorry to say.

Andrew: Well, thanks for your help, and hopefully I'll get a job soon, but can I just ask one more question? [Sure] What, basically, are employers looking for when they Interview someone?

Woman: Oh, many things. Being hardworking, diligent, and focused on your job is good, but surprisingly, it often means you can't see the bigger picture, or provide suggestions which help the company move forward. That requires thinking for yourself, outside the box as they say, and being free of the standard ways of approaching tasks. Employers certainly value that.

Andrew: I guess experience must help, though?

Woman: It depends. If it involved a routine job, one which didn't exercise your mind, it might not mean that much at all. But since companies are basically composed of people, it is important to be able to get along with others. There's no point in hiring someone whom the other employees don't like, right? That just causes problems — in fact, I would say that being friendly and approachable ranks far more highly than your academic qualifications.

Andrew: Okay, and that's all assessed at the interview, right?

Woman: Yes, and your qualifications, experience, and approach to the job, such as whether you can do different things, work overtime, or do long hours as needed. But those latter qualities are pretty much standard. What may be more important is based on the fact that things inevitably go wrong. Mistakes are made, and someone's got to fix them in a way that creates the least disturbance. People with demonstrated abilities to do this are certainly regarded highly.

Andrew: I see. That's very interesting



# **SECTION 2**

You will hear the manager of a fitness centre giving information about the centre to some new customers.

Hello everyone, and welcome to the "Fit for Life" Health Centre — a place which, as the name suggests, is not just for short-term solutions, but rather, intends to put you on a sensible and achievable looting for the rest of your life. And that's how we're different. For example, we could immediately put you on a harsh exercise program, expeeling you to work out every day, but such a plan would see you quickly lose interest. That's why the initial step is a one-and-a-half-hour consultation, in which your lifestyle, current situation, and long-term goals, are all thoroughly analysed.

Now, an important part of this consultation involves analysing what you eat. There's no point exercising here, and losing weight, then pulling it all back on, later. You will need to show self-control and discipline in your diet, and we'll work on that. Similarly, we'll put you on an exercise regime suitable for your level of fitness, so that will involve a test, where we will take you through some activities, then measure your heart rate and blood pressure to determine how fit you are. This will be monitored during every subsequent consultation, along with your exercise schedule, and that occurs monthly, and not half-yearly, as with many other centres.

As to our actual exercise machines and programs, you will have to decide whether it is muscle mass, stamina, or general fitness, that you want to develop. Think about which of these three you want to target, and we'll design a specific program for you -- but remember, bulging muscles aren't necessarily suitable for everyone. Sometimes it's better to think in terms of two simple concepts: muscle definition and stamina; or, if you are female, being fit and healthy, in both mind and body.

Now, if you're going to work out at this gym. you'll need to think about your reasons for exercising, so let's consider that in more detail. Muscle mass is certainly popular with the guys, probably seeking, to impress the girls, and with

muscles comes the confidence to do that, right? Well, for that, you'll need our highstress weight units, where pumping iron is all the rage. Moving, on to other benefits,

one of the main ones is beating the tension of life, right, and the longer the exercise is, the greater the rewards in this respect. Thus, playing squash can certainly help, and so can swimming, but what's much better, as every jogger will tell you, is their activity, so we have ample jogging machines, and they're always popular. They can provide good fitness too, as can the yoga classes; however, again, let's not forget playing squash, which, I would say, is the optimum way to improve your general wellbeing. Such an active, energetic game, plus the competitive element, drives you forward into high levels of health and fitness. These, of course, are the ultimate purposes of being here, but remember, the centre is full of likeminded people, all of whom are interesting to meet, and valuable sources of information.

The yoga classes have a pre- and post-meeting session, so you'll certainly meet others there, although they'll all be yoga enthusiasts, which limits the range somewhat. But whether doing yoga, swimming, or exercising, everyone showers, right, so those facilities are where you'll hear all sorts of interesting conversations, and really get to know people —not like the front-desk area, which is mostly empty as patrons go immediately inside to do their exercise. Of course, the front desk can answer all your questions, and has information brochures, and such like, but for knowing more about a greater variety of subjects and community concerns, look at the notice board in the yoga studio, where there's a huge array of papers, leaflets, and articles, all for you to read and consider.

## **SECTION 3**

You will hear two faculty directors talking about which person in their university to promote.

Dir. A: Okay, we've got to decide who to promote to Leading Education Officer.

Dir. B: Someone from the arts faculty, I suppose.

Dir. A: Well, it can be from any faculty, since the position requires more general skills: handling personnel, settling disputes, and motivating them to focus on the task. It was the last position which involved computer knowledge, not this one.

Dir. B: Surely computer knowledge would help. So too would knowledge in the arts.

Dir. A: Sure, it would help, but the key criterion is being able to direct the staff appropriately.

Dir. B: So, it doesn't matter then from which faculty we select our candidates?

Dir. A: Not really, but I've already looked at those from computing, and rejected them all.

Dir. B: Why?

Dir. A: They'll all too new, lacking in sufficient experience, whereas these ones from the business faculty are longtimers, so we'll take someone from there.

Dir. B: I suppose you're right. The arts faculty doesn' t present much in the way of suitable candidates either.

Dir. A: But we'll still have to train the person—teach the ropes, as they say. And he or she will have to expect to do overtime, as needed.

Dir. B: Of course. It can get so busy that, if we were open on the weekend, they'd have to work then as well.

Dir. A: Just as well we're a Monday to Friday university, right?

Dir. B: Right! But are you sure these people will actually want the job? The salary isn't such an improvement on their current ones.

Dir. A: I know, but there are benefits. You get overtime rates, a nice place to put your car, as well as additional petrol money if you drive for company purposes, which they'll probably be required to do.

Dir. B: But those benefits are quite limited, especially given all the work and responsibility involved. People often don't like that. They prefer the creative freedom of less-senior teaching positions.

Dir. A: Yeah I know, but these candidates should realise that if they do this job well, there'll be more promotions down the line. You know how everyone likes having their own office, right?

Dir. B: Sure.

Dir. A: Well, that would come after a few years, if they're prepared to work hard and grow with the university.

Dir. B: Yes, that should attract these people.

Dir. A: Well, that's enough talk about the job. What about the actual candidates? How many do we have?

Dir. B: Ah, I've narrowed it down to four—ah, just using their first names, that's Steven, Abdul, Lek, and Oscar. As you said, there's quite a bit of experience between them, about 34 years in all.

Dir. A: What's the exact breakdown of figures?

Dir. B: Abdul and Steven both have seven years, Lek has one more, and Oscar is the most experienced, at 12.

Dir. A: But who's the most qualified?

Dir. B: Steven and Abdul have an MBA — sorry! Abdul's got something called a M.B.P. — some foreign thing which translates as Master of Business Practice.

Dir. A: I'm not sure what that is, but does he do the job well?

Dir. B: Very well, apparently — better than Lek and Oscar, who hold a degree and some certificates, respectively. But we have to think about any drawbacks —

y'know, possible issues with any of them. I asked their respective deans for feedback, and I found out that Steven, the younger one, drinks a bit.

Dir. A: So, he has a problem with alcohol?

Dir. B: No, he never drinks to excess, but at the bar he's often expressed his intention of moving on, of teaching abroad.

Dir. A: Ah, he's not stable.

Dir. B: Not stable at all, apparently. We'll never know for how long he'll hold the job.

Dir. A: We need stable personnel, and people without family problems, or sick relatives, like the last guy we promoted. What about Abdul then? Will he do?

Dir. B: He might do, except his English language ability is limited. It's functional, but a bit broken, and meaning is sometimes lost. That's not the problem with the next candidate, Lek, who has good language ability, but this job involves handling people, and his dean says Lek's attitude is bad.

Dir. A: In what way?

Dir. B: His manners are okay, and he's interested in his job, but he believes there should always be adequate leisure in life. He definitely won't work overtime and complains a lot already about his job, but this last candidate, Oscar, is probably not the right one, either.

Dir. A: Why not? Not another problem with language?

Dir. B: His first language isn't English, but he speaks it well enough. He's stable, with a good attitude, but his age is the problem.

Dir. A: Age is not a problem. That would be ageism, and I don't believe in that.

Dir. B: But with his age comes health problems as well, and serious ones at that.

Dir. A: Oh, that might be an issue then.



# **SECTION 4**

You will hear a lecturer talking about caves.

If there is one natural feature which has long fascinated man, it is caves -- those natural underground spaces into which people can enter. No known cave in the world can exist without it being extensively explored, whether it be in remote areas, such as the Clearwater Cave in Borneo, or immensely long and difficult, such as Mammoth Cave in America, or perhaps the most challenging: those caves below the water table, full with water -- in which ease the exploration is known as cave diving. Whatever the ease, if the caves are known, as complex and difficult as they usually are, they will be explored.

The formal name for the study of caves is speleology — and involves many disciplines, such as chemistry, geology, biology, and cartography, or the science of making accurate maps, since the largest caves can be hundreds of kilometers long and highly complicated. If the exploration is just for fun, the activity is known as caving, but with the difficulties and dangers involved, the average caver is often involved with one of these speleological sciences.

As for the number of caves in the world, research suggests that only a fraction have been found and documented, mostly in the areas in which caving has long been a popular activity, such as in America, France, or Australia. China, for example, has huge areas of limestone bedrock—prime material for cave formation—and logically must contain among the largest number of caves in the world, yet only few are documented due to the lack of interest in caving there. Thus, as exploration continues, new caves will be discovered, and it is likely that the numbers could radically change in the future.

With caves being such mysterious and intriguing places, the obvious question concerns how they form. The most common cause is the effect of slightly acidic water in a process called 'dissolution'. Here, water seeps into the ground, and down through rock masses. If this rock is soluble, the water dissolves some of it, and over time, the passage expands to become a cave, or cave system. The largest and most common of these involves limestone, although other materials are possible, including gypsum, marble, and even salt.

Now, if the cave is formed at the same lime as the rock, it is called a primary cave, and the most common of these are lava tubes. When lava from volcanoes flows downhill, the topmost surface cools and solidifies first, leaving the hotter lava to continue to flow beneath. If most of this eventually flows out, a hollow tube is left. The country Iceland, has some excellent caves of this type, and even far-flung Australia has a few. Finally, there are sea caves, formed from waves pounding into coastal cliffs, and eroding into fault lines, or softer rock. These caves are usually the shortest, about 50 meters at most, since the erosive action of the waves can only reach a certain distance.

However, it is limestone eaves which will always be the most interesting. This is due to the presence of limestone formations. As the groundwater seeps downward through the ceiling of the caves, it encounters a different pressure and temperature, causing it to deposit a small amount of its dissolved calcium carbonate. Over time, through the action of millions of drops, this deposition process results in evergrowing masses, known as stalactites of hanging from the ceiling), or stalagmites (if growing from the floor). Alternatively, the water may flow over a large surface of rock, forming flowstone, and with other sorts of processes, can result in beautiful milky-white formations of astonishing complexity.

One of the best examples of this, as well as of what surprising discoveries may yet await, is the Lechuguilla Cave in New Mexico. In the 1950s, some cavers heard the sound of wind underneath some large boulders on the cave floor, a clear sign of a deeper passageway. It look until 1984 for a group of cavers to gain permission to start digging, and two years later, in 1986 they broke through into a walkable passageway —unlocking, one of the longest cave systems in the world, the deepest in America, and some of the most beautiful formations ever found, Unusually, many of these were yellow with sulphur, suggesting that the caves were a result of hydrogen-sulfide from nearby oil deposits. This was forced through fracture lines, combining with existing groundwater to form sulfuric acid, dissolving the limestone

from the **bottom up**, instead of the normal top-down seepage which characterises most limestone cave formation.



### **SECTION 1**

You will hear a survey company representative ringing a person to obtain some information.

Rep.: Hello?

Person: Hello? Who is this?

Rep.: Hello. I'm a representative of the Tallyho Survey Company, and I'd like to ask you a few questions regarding exercise.

Person: Oh, that's an interesting subject.

Rep.: Yes, we think so, too.

Person: But I'm afraid I'm a bit busy at the moment.

Rep.: Don't worry. This will only take about four minutes at the most. It's 10:25 now, so it will all be over by 10:30.

Person: Well ... alright, if it's that short.

Rep.: It will be. So, one of the first things I need to know is where you are — that is, which suburb or area of the city? The last client was in Blackburn, for example.

Person: Blackburn. That's close to me. I'm in Box Hill.

Rep.:Another eastern suburb then. I have a friend in Box Hill, too. Interesting place. Now, I need your approximate age for this survey. Are you younger than 20, between 20 and 29, 30 and 39, and so on?

Person: I'll turn 40 in a few months, so that puts me in the 40 to 49 age group.

Rep.: Well, that's in a few months, so right now you're in the 30 to 39.

Person: Oh, right. So put that then.

Rep.: Okay. Now, I need to know your occupation. The last caller was a housewife, for example; the one before that a teacher.

Person: I used to be a teacher, too, teaching cookery.

Rep.: And now?

Person: Now you can just put 'domestic duties'. Actually, I hope to begin a new job soon, as a cook, but that won't be for some time yet. I have to wait for my husband's restaurant to open.

Rep.: Cook? That sounds interesting, but it's 'domestic duties' for now. Okay, that just leaves some information about your family. This is not obligatory at all, so if you don't want to answer, that's fine.

Person: What sort of information, exactly?

Rep.: Oh, it's very broad. Married, with children; single mother, that sort of thing. The last customer said she was a single mother.

Person: I'm married, and not a mother. Put 'married, no children'.

Rep.: I'm married with children, myself. But I'll put in your details, and that finishes the profile, and just l eaves the actual survey itself, if you're ready to proceed.

Rep.: Alright, let's begin the survey now, about your exercise habits.

Person: I'm afraid I don't exercise much at all.

Rep.: Well, the main question is in what form you take your exercise, however little that may be — for example, in just cleaning. Do you clean the house?

Person: My husband does the cleaning, actually, but I walk to the supermarket and shops very often, up to four times a week.

Rep.: I'll put that then, unless there's something else.

Person: Nothing else, really. But I diet. I'm very strict about what I eat. Oh, and I do yoga, although that's not very energetic—more a form of relaxation, and to tighten my muscles.

Rep.: They're both important, of course, but what about sport? Do you undertake any sporting activities? This could be very infrequent. In the past, for example.

Person: My husband plays basketball at the local school, and I sometimes watch. When he was younger he was in a basketball team, but I never participated.

Rep.: Have you done anything at all?

Person: I used to hike in a nearby national park.

Rep.: Well that's a definite physical activity, so I'll put that—but not basketball. Alright, that just leaves future exercise intentions. Do you plan, or expect to do, at some stage, any form of exercise?

Person: I once dreamt of doing modern dance, but that's never going to happen. Realistically, I'm thinking about going swimming, at the local aquatic centre, although my husband thinks we should just jog. I can't see myself doing that, though—too tiring.

Rep.: I can understand. I used to jog, too, and it really makes you sweat. I'd say swimming's a much better option.

Person: But I'll be starting this job as a cook in my husband's restaurant. I imagine I'll be very tired doing all those late shifts. But if I have any energy left over, I might go to the aquatic centre to release some stress.

Rep.: Alright. Well, that's the end of the survey. Thank you very much for your time.

### **SECTION 2**

You will hear the director of a language-centre library explaining about its facilities to some new students.

Welcome to the library, or the I.L.C.. which means Independent Learning Centre, and let me explain about some of its facilities. We're standing here at the entry gales, next to the borrowing desk. That's where you check out any books, but you are also advised to study in the library here, since most of our material cannot be borrowed. Thus, we have Seating along the middle of the library, and in that far corner in front of us. on the left, we have the Quiet Reading Section, for some serious reading activity.

We used to have the computers there but then realised that that corner was very quiet, and thus better suited for the purpose it now has. The computers were instead shifled to a more central location, right beside us here, on the left. Again, somewhat confusingly, this area once housed the Newspaper and Magazine Section, but the people in the Quiet Reading Area had to walk loo far to collect this literature, so it was moved to right beside them, in the adjacent corner. So, feel free to read the newspapers there. But the reference books, those huge weighty dictionaries, atlases, and encyclopedias, were all situated at the opposite end of the building, against the wall. This was because they weren't generally that popular, and we wanted more space for the magazine racks, always a favourite with readers.

Okay, as well as reading, you need to work on your listening skills, and for that you need the Audio Section. Again, such an activity needs a quiet area, so we put this in the last remaining corner, up there on your right, as you can see. There are CD players and headphones, so just borrow the listening packs, sit down there, and listen away.

Right, that just leaves the main library. In other libraries, that's often right beside the Newspaper and Magazine Section, allowing freedom to choose from all genres of literature, but here, we've got them further apart. For the main library, just follow your nose, past the central settling there, and it's there among all that shelving, upon which you'll find an abundance of interesting hooks and listening packs to use. Now, I'd like to tell you a bit more about an excellent service offered in the I.L.C. here that we call the 'Special Sessions'. What can you do in them? For a start, many of you need practice in speaking English. and for that we hold a special Discussion Session, led by a teacher. That can be noisy, in fact, we hope that it is noisy, since that would mean many people are talking. It's in the Central Seating area, and it used to be from 10.30 to 1.30. but we found that the noise was disturbing the regular I.L.C patrons, so we shortened and moved this discussion to the morning, 9.00 am time slot, when fewer people tire in the centre. It goes for one and a half hours.

Alright, what about Writing Skills? Well, we can help you there with another teacher. Now, writing is a fairly quiet activity, so that teacher stations him or herself in the Quiet Reading area from 1.30 until three. The 10.30-to-midday time slot cannot have a teacher for such writing skills, as they are all teaching in the morning. For this reason, of course, there cannot be an on-call teacher in the morning either, although many people would like one, particularly the 10.30-to-noon crowd, having just finished their early morning class. These students all have to wait until midday onwards, when, for three hours, a teacher will be stationed in the Audio Section, ready to deal with all those questions.

Until recently, we had another teacher doing the 3-pm-to-6-pm time slot, in the Central Settling, but all the noise interfered with the late users of the I.L.C., so we had to cancel that. Also noisy can be the Language Exchange, where local students who want to learn your language will help you practise English. This is generally done in pairs, so the noise level is low enough not to need this exchange lo run at 9 am, but at a more congenial time of 10.30, among the Central Seating. That must finish by 1.30 though, tiller which quieter and more individual activities take place.

### **SECTION 3**

Dylan: Hi, Emily. What did you think of that lecture?

Emily: A bit hard to follow, but I have some good lecture-listening note-taking strategies which really help, so I can review the lecturer's message later.

Dylan: Lecture-listening note-taking strategies? Review it later? That sounds interesting. I must admit, I struggle a bit to take down the gist of what I hear. Look at my notes.

Emily: Well, I can see a basic problem immediately. You're writing full words, such as 'century' when all you need is a 'C', And don't write 'increase'; just draw an 'up' arrow. And why write 'thousand' when a 'th' will do?

Dylan: I see. Just use symbols. That's not a bad idea at all.

Emily: It's the most basic strategy, allowing you to record information at a faster pace. These lecturers can talk faster than others, too, so you don't want to waste any time. But you need to be very familiar with your set of symbols.

Dylan: Why?

Emily: Because you'll have to look at these notes days, weeks, or even months afterwards, when you begin writing your essay, so you'll need to be able to interpret them at a later stage.

Dylan: I think I can do this, even by looking at your notes. 'Immed' must mean immediately.

Emily: But regarding the lecture as a whole, I knew the professor would be giving a set of specific recommendations, and comparing two alternative approaches, so I formatted my page in advance, adding the features consistent with the nature of what I was going to hear.

Dylan: Ah ... I think I need an example of what you mean.

Emily: Well, look at my page. Before the lecture, I drew large headings saying 'recommendations'. You should always draw these, and I drew a table saying, 'Approach

1' and 'Approach 2'. At the end I drew a flowchart, as obviously the final recommendation would be a step-by-step approach. Then I was prepared in advance to simply fill in the spaces.

Dylan: Wow! Now that's clever.

Dylan: Your advice about note taking sounds great, but I still have one question, Emily. How are you able to design your page in advance? I mean, how can you predict the nature of the talk, and know which design is likely to work best?

Emily: It's rather obvious when you think about it. What's your next lecture about?

### Dylan: Legal Studies.

Emily: Well, that suggests to me that you'll need a flowchart, since the judicial system has a very logical 'do this first, do that second' approach, which must be followed in that order—y'know, all the processes that happen in the courtroom, and the procedures that must take place to ensure complete legality.

Dylan: Sure. That's the way law is, very linear and orderly, but what about Culture Studies? That's just a mass of comparisons of different cultures.

Emily: Which tells you that you will need a table, where, in tabular form, you can efficiently write down information.

Dylan: But often the lecture's not that simple. The professor throws in a really complex mix of ideas.

Emily: Then use a spider graph—like the web a spider makes, where there's a central idea around which you attach all the associated thoughts, and ideas, and impressions.

Dylan: I see. I think I understand. And that would be very quick, too; very efficient. I like that. But what about Management Theory? How would you approach that?

Emily: The same as with Culture Studies. I'd use a network, which is basically the same as a spider graph, linking thoughts, although this time there are directions involved. It is

this element that makes it different—the fact that the thoughts go one way and not the other.

Dylan: Okay ... has directions. It sounds logical. And what about the other subjects, such as Political Science? There's no predictable order to that.

Emily: Well, for that I'd just put my notes in a line, that is, in linear, or straight-line fashion, and these notes would use symbols, of course, to save time.

Dylan: Okay, that just leaves Mass Media.

Emily: For that, I wouldn't have any special design at all. As you say, sometimes it's impossible to predict in what way lecturers will present their information, in which case the best you can do is pre-write headings, but not specific, just general, as in Main One, Main Two, Sub One, Two, and Three, and so on.

Dylan: Okay.

Emily: But always be prepared to adapt to the nature of the talk, using any one of the other methods if it becomes appropriate at the time.

### **SECTION 4**

You will hear a lecturer talking about an unusual atomic particle, called the neutrino.

When considering the smallest unit of matter—the atom — most people know of electrons, protons, and neutrons, but almost none know of another particle, even though they are constantly emitted from the sun in the trillions, with 100 to 200 billion of them regularly passing through your body every second. To repeat, that's not thousands, not millions, but billions, every second. You don't feel them because they are small, in fact, so tiny that we can barely detect their presence at all. These mysterious particles are called neutrinos.

Despite such an abundance, detecting them is a huge undertaking, and there are many reasons for this. Firstly, the neutrino itself is so small that you need to eliminate absolutely all other particles around. To do this, you need what is called a clean room, one that has an extremely low level of dust, microbes, floating particles, or chemical vapours. You probably don't know it, but the air around you right now has almost 40 million particles per cubic meter. In contrast, the cleanest of clean rooms has less than 10.

The second problem is that you also need an environment with absolutely no background radiation. At the surface of the Earth, such radiation is all around, from the sun and sky, and from TVs and communication devices. The only way to screen out all that is to go underground, and I mean deep underground. For example, the Sudbury Neutrino Observatory in Canada uses an old nickel mine, one of the deepest in the world, and puts the Observatory in its lowest tunnel, more than two kilometers below the surface. At such depths, stray radiation is sufficiently screened out to allow neutrinos only to pass by.

The final problem is that you need an elaborate detection system, and this apparatus is huge, and its installation in this deep underground cavity presents quite a headache. Holding such a weighty construction safe and secure requires complex engineering work, such as rock-bolting and support structuring. This obviously requires great care, and takes a lot of effort.

So, I've told you about the difficulty in delecting neutrinos. They are tiny, virtually weightless, have no electric charge, and hardly interact with anything at all. Yet we can detect them, and to see how, let's consider the Sudbury installation once again. The detector there consists of a spherical container filled with heavy water. This rests inside another vessel tilled with normal water, which helps support the weight of the inner sphere, as well as providing further shielding from any stray radiation. At the edge of this inner sphere are about 10,000 electronic detectors. These tire extremely sensitive, able to multiply a hundred million limes any electric current which occurs.

So, as the neutrinos pass through this sphere of water, there is a very very very small chance that one of them may hit a water molecule. To increase the likelihood of this, two strategies are used. One. the larger the sphere of water, the belter, and the Sudbury lank holds not 10 tons, not 100 tons, but 1000 tons. Two, the water is special, consisting as it does of heavier molecules. So, what happens is this. If the neutrino hits the water molecule, the neutrino is absorbed, but the molecule itself splits apart, producing a tiny electric current. It is this which is delected, and analysed, giving key information about the neutrino.

The final question is why do we care about these elusive particles? Well, just think -they can pass right through the core of our sun at the speed of light without being affected or losing strength. No other form of radiantion can do that, meaning that the know ledge we get about neutrinos can help us to control them. With this ability, we can probe the centre of our Earth, the inner layers of our sun. and the outer limits of our solar system, and that makes it all worth the effort.





## **SECTEION 1**

You will hear two colleagues, Marcus and Ella, discussing a work project.

Marcus: Okay, Ella. As you know, the deadline for this project is the end of the month, so we'd better plan it well.

Ella: Yes, I've already been thinking along those lines, and I've decided we should divide this project into three phases: the **Pre-phase**, then Phase 1, and then Phase 2, with strict deadlines involved for each one.

Marcus: Given that we have to finish this quickly, that sounds good. Tell me more.

Ella: The Pre-phrase is the simplest. We just need to allocate a space or a place to do our planning, and this space will need to be quite big.

Marcus: Sure, and we have to decide on the equipment needed as well. Remember the last project, when we didn't have enough projectors to present our ideas? We lost lots of time there.

Ella: Yes, that was a bad start. That's why, after the Pre-phase is finished, I've allocated a mere three days for Phase One.

Marcus: That will involve drawing the plans. We'll need Jenna to help us.

Ella: And Marco.

Marcus: Yes, but not Susan. Susan is just far too busy to participate, as much as I'd like her in the team.

Ella: Let's just take Fred instead. He'll do.

Marcus: Sure. Fred's not as experienced as Greg, but I agree, he'll do fine for this job.

Ella: Then it's straight into Phase 2, collecting, collating, analysing, and preparing the final report.

Marcus: Can we do that in five days?

Ella: I think that's optimistic, which is why I scheduled six.

Marcus: That's almost a week! Do we have that much time?

Ella: We do, and with the right people, six days should see the job done.

Marcus: Who are the people for this phase? Arthur and Rob, right?

Ella: No, Arthur's got other things to do, and Rob's on leave, so Mike alone will be the main man on this part. He's done it before, so it should be fine. But he may need some help with the smaller tasks. Someone who is good with detail and procedures.

Marcus: Hmmm. Peter's not free at the moment, so I can arrange Leo to chip in some time and advice. Leo's very useful, particularly under pressure. And that's everything sorted! Well done Ella. This report should certainly be ready in time.

Marcus: Okay, Ella, you've done a good job with the basic timeframe of this project, but what about specifics?

Ella: What sort of specifics?

Marcus: Well, things like information gathering. Are we going to use questionnaires like we did last time?

Ella: I was thinking of using the Internet to ask people to give their views, but you often get such silly responses when you do that. I'm of the view that the best way to find out things is to ask people directly, so that's what we'll do.

Marcus: Okay, but that will take longer. We'll probably even have to do some of the work at home.

Ella: No, I don't think so, as long as we stay back at work for some after-hours meetings.

Marcus: Well, that's better than coming in early. No one functions well in the morning. Also, the final report will need at least two appendices.

Ella: Not only that, we'll have to attach a small booklet to the end, containing printouts of the relevant parts from all the foreign websites we accessed.

Marcus: That will take even more time. Are you sure we can meet this deadline?

Ella: Yep, I've worked it all out, and I'm confident we can do it. Phase 1 should be finished by the 5<sup>th</sup>, leaving Phase 2 to begin about the 8<sup>th</sup> or 9<sup>th</sup>. Now, there's a public holiday on the 10<sup>th</sup>, meaning that everything should be able to be submitted on the 15<sup>th</sup>, and after that, we can relax, and celebrate on the 25<sup>th</sup> when the Design Division gives us approval to go ahead.

Marcus: Hah, you're assuming that the Design Division will approve this, and that's not guaranteed at all.

Ella: Oh come on Marcus, be positive. You know this should be approved—in fact, I'm even planning the celebration when this is all over.

Marcus: Oh yeah, what's on the agenda, then?

Ella: Well, we definitely don't want a party in the office, do we? We'll want to get away from this place, and we're all too busy with our own lives and families to find a mutual time free for a dinner party, so I thought we'd just buy some nice expensive gifts for everyone who participated. We can just give these to the people here in the office.

Marcus: That sounds fine to me, but make sure they're not too expensive. The Budget Department will never approve the cost.

Ella: Don't worry; I know how much I can get away with.

Marcus: Alright. I'll leave that with you.

# **SECTION 2**

You will hear a maintenance worker talking to a university officer about some recent storm damage to the main building.

Worker: Hello there. I was asked to tell you about the extent of the damage to the main building, caused by the recent storm.

Officer: Oh, that's right. I take it that most of the damage is just to the main building?

Worker: It is indeed, since the building is so old. However, luckily, the damage is minor, and all of it can be fixed in one day, given that we have five people in our team.

Officer: What will you be doing first? I understand you start at 8 in the morning.

Worker: That's right, and we were going to remove the fallen tree, but we've been told there are exams that morning, and I'm sure the sound of those saws and other heavy equipment will disturb all the students, so instead we'll fix that leaky roof. That's a fourhour job, since it involves substantial repair, not like fixing broken windows, which can be done quite quickly.

Officer: So you'll fix the broken window after that, from midday?

Worker: We could do that, but since we'll be working in the ceiling, it's more logical to get rid of those **birds'** nests there. It's a small job but will require crawling inside the ceiling cavity, which is not an easy exercise, so that will take about an hour. But this is good, since by that time the exams should be over, and we can address that tree which has been blown over, after our one-hour lunch break of course. It will be quite noisy dealing with that, but it will be finished by three o'clock. Some of our staff will then leave to fix things on another site — an office nearby needs a new window — but two of us, including myself, will remain here to paint over that discoloured patch of wall in your office.

Officer: Oh good, it looks so horrible at the moment.

Worker: Well, we'll certainly make it look good once again, and in the last hour of our working day, we'll fix up that problem with the wiring. Apparently the power doesn't go to one of the classrooms. Probably some water has gotten into the fuse box, so we'll just change a few wires, and clean up the moisture, and it should be fine.

Officer: I certainly appreciate all the effort you and your team are taking to fix things here, but I do have one request.

Worker: And what is that?

Officer: You said you're going to paint the back wall in my office. Will it be the same colour as before?

Worker: Yes, we'll make it a nice white colour.

Officer: Well that's the point. I'd prefer it to be yellow, to match the furniture. The furniture is orange, actually, but I think yellow is a nice match. Can you do that?

Worker: We can certainly do that. Yellow it is. Certainly a prettier colour than just plain white, or the blue in my kitchen at home for that matter. And we can leave the paint can with you, in case you need to do some touch-ups, or if the stain reappears. I'll just leave it in the garden shed, the one next to the main classroom. And incidentally, about those birds in the ceiling. I was just investigating, and I heard the chirping of little baby birds in there, so there must be some young ones in a nest. I just thought you'd like to know that we can give them to a wildlife reserve. There's one in the next suburb, so that should not be too much trouble.

Officer: Or you could give them to one of our teachers. I have a colleague who can raise them.

Worker: I would say the wildlife reserve is a better option, since the people there are used to dealing with animals, and as for that fallen tree, we'll cut it up into small pieces and that can be firewoodin my house, so that won't be wasted either—although the smoke

will cause some pollution, but I have a special licence for my fireplace, so no one can object to that. I've noticed also that the university has a garden bin, for the smaller items — leaves and sticks and bark, and so on, so we can dispose of material in that, also. You do have some waste piles out the back, but a proper garden bin means that the material will be recycled, and that's better for the environment, so you can rest assured we will use that.

#### **SECTION 3**

You will hear three students, Steve, David, and Susan, discussing the different courses they attend.

Susan: Well gentlemen, we've almost finished our second semester at this university. What do you think of all the courses we attend?

David: On the whole, I'd say they're quite good, apart from Social History, which I find to be a little too inexact.

Steve: Yes, the lecturer's style is also very very dull.

Susan: I certainly agree with you there, although I would say that the textbook is more interesting. 'Welfare State'. The subtitle says, 'An examination of social development in the 20<sup>th</sup> century.'

David: Yes, 'Welfare State' is a good book, but look how many pages it has. 458!

Steve: I agree. It's just too long to be easily read. Far too long, although it's certainly well written in parts.

David: Yes, and if you compare it to the textbook for Cultural Studies—what's it called? Susan: 'Inner Views', I think. David: No, that's the book for Media Studies, and we finished that subject last semester. The book you're thinking of is 'In Perspective'.

Susan: Sorry, you're right. 'In Perspective'. And the subtitle says, 'A comparison of social groups.' Somewhat interesting, wouldn't you say?

David: Well, mildly so, as is the subject, dealing as it does with such a wide variety of issues, but the book itself certainly oversimplifies a very complex subject.

Steve: I agree. I also got annoyed at its constant oversimplification. Life is more complicated than what it suggests.

Susan: Yes, but what you call 'oversimplifying' may well be considered 'clarifying'. Look at this other textbook, 'Government in Action'. Some may say that it also oversimplifies, but it must do so in order to present a coherent picture of an equally complex subject.

David: 'Government in Action'? Which subject...?

Susan: It's the textbook for 'Political Theory'.

Steve: Oh, I hate politics. That's why I don't like the 'Active Leadership' subject, either. And most of the stuff in that 'Political Theory' textbook is based on the American system. You see, it's written by Americans, so it's not even relevant to us here.

David: I'd agree with you there — it's not relevant to us at all, since our government uses the Westminster system.

Susan: Yes, I suppose that is a problem.

Susan: Well, it seems we all have certain criticisms about the textbooks we're using, but at the same time, we all like some elements, at least, of the subjects we're studying. What's your favourite subject, David?

David: I'm not sure. I like Political Theory, but ...

Steve: Cultural Studies is by far the best, even better than Political Theory, which I also like, but just not as much.

David: Why do you say that, Steve? I was thinking, perhaps, Social History is worth considering as best.

Steve: Social History is good, but I made my choice because the subject is relevant to this modern society.

David: But so is Social History, and I like the historical element, which the other subjects lack. Even Political Theory examines history only briefly, and in a very narrow way, so I'd say Social History is the most rewarding for me. What about you, Susan?

Susan: I think Social History is certainly very good, but Political Theory is, in fact, the best, since basically, every human system boils down to politics. So, despite a certain irrelevancy in the details, the basic message remains as relevant as ever.

David: Oh Susan, you can't be serious. Let's ask Olive, again. She's over there. Olive! Which subject do you think is the best?

Olive: Ah, a difficult question. I'm very interested in culture, so Cultural Studies is certainly my cup of tea, but I'm politically active also, and hope to pursue this as a career, so Political Theory would be the one I'd pick.

David: I don't believe it. Even with that irrelevant textbook?

Susan: Don't listen to him, Olive; you have a right to your own opinion.

### **SECTION 4**

You will hear a lecturer talking about the movement of population towards cities.

If you consider the farms of old — the type your father or grandfather grew up on, they were small and labour-intensive, requiring lots of workers. In addition, they often had a diversity of products, be that animal or vegetable — say, cows and sheep, or oranges and lemons, with some peaches, and a few chickens on the side, for the production of eggs. The many workers involved raised their families, who needed products and support services, such as medical clinics and schools, so the small country towns had mercantile activity, store fronts, and community participation, with all ages present and a distinct town culture.

And how it has changed! Travel to any small country town in virtually any developed country, and you will often see that these places arc now somewhat forlorn and deserted, lacking life and vigour. Many of the residents have long since moved towards the big cities, so the country areas have become depopulated, and their downtowns empty. This phenomenon is so predictable and widespread that it even has a name - rural flight, or rural exodus -and it has produced some fairly predictable problems.

As for the causes of rural exodus, the most obvious is the industrialisation of agriculture. This comes in two aspects, one of them being monocultural farming practices. What this means is that it is now more efficient to have one product, and focus on its needs almost exclusively. So, for example, animal husbandry will usually involve a single type of animal, say pigs, but with huge factory farming techniques, or, in other words, the second aspect: economies of scale. This means instead of 200 pigs, there'll be 2000, tightly fitted into small pens or cages, with high density waste disposal and automatic

feeding systems. Yet despite this huge size, it can all be controlled by just a dozen farm workers pushing the right button. You might not like it, but in a competitive market, the cheaper the overheads, the better, and one can't argue with market economics. It's simply the way of the modern world, and it has changed the face of rural districts, mostly for the worst.

We can talk at length about the problem of rural exodus, but what about solutions? Well, there is certainly some cause for hope, since many are now feeling the negatives of

increasing urbanisation, negatives which the countryside generally does not have. Thus, tourism, for example, is certainly one avenue of revenue and revitalisation. The most important consideration here is that the local residents themselves participate in developing such initiatives and deciding what happens, since outsiders, be they state government or city-based planners, do not fully understand the local settings, the possibilities which may be on offer, or the town culture, since even small rural areas can be highly distinctive from neighbouring ones. For example, the Daylesford area has developed a tourist industry based on the natural springs there, putting forward the angle that this water is relaxing and revitalising for the health. There has been the development of spas, saunas, and small-scale accommodation within its picturesque hillsides.

And another solution is to utilise the predominant local product. This takes advantage of the fact that many city-people are developing a dislike for factory-produced and packaged foodstuffs. They are becoming interested in products that can be sold directly to them, at a cheaper price, while preserving all the freshness from the tree or animal. It is important here that the country area is not only characterised by a specific product, but markets this idea well. For example, many areas of country Victoria have developed widespread grape-growing and winemaking facilities, and encourage wine tasting tourism—now a thriving industry, with an international patronage. Similarly, Harcourt is famous for apples, Shepparton for mature cheeses, and Mildura for its citrus products. Such strategies, done well, give hope that rural areas can revitalise somewhat, and once again be lively and interesting places to live in.

# Listening Test 6



# **SECTION 1**

You will hear two flatmates, Tom and Richard, talking about their new flatmate, who has just moved in the week before.

Tom: Hi, Richard. I'm glad I caught you here. Can I just talk to you about something? Our new flatmate—Anders — is not quite what I had hoped. I was wondering if you shared my concerns about some of his behaviour.

Richard: Ah, yes, Tom, I know what you mean, but we can't be entirely negative. He has good points. I mean, at least he's quiet. He doesn't play loud music all night, or bother others, or turn his TV up, disturbing everyone.

Tom: Sure, he's quiet, but remember our last flatmate? He'd say 'hi' to you, and smile, and treat everyone politely. In comparison, this new guy is very impolite. He just grunts in reply, and sometimes ignores me altogether.

Richard: I guess that's just his way—y'know, just his character. I don't think he realises he's being impolite, and it shouldn't matter to us too much. We can just ignore him, too, and quietly live our own lives.

Tom: But his friends are hard to ignore, when they visit.

Richard: I know what you mean, but how often does that happen? I rarely see them — maybe once or twice a month. If they came moreoften, it might be a problem, but as it is, such rare visits don't matter so much. Wouldn't you say so?

Tom: Well, I'm not sure, since it's very obvious when they're here because of all the cigarette smoke in the house. It stinks up the place, and you know we don't allow smoking on the premises. Richard: Well, I've never seen them doing this. Maybe they do it outside. Perhaps we can talk to Anders about it. Always remember, though, in one respect, he's a good tenant. And it's the most important aspect. The previous flatmate would always pay the rent late.

Tom: I know what you're going to say. This guy pays **promptly**. But there's more to being a good tenant than prompt payment. I mean, you need to turn off the TV, clean up your dishes, dress respectably, be polite, and so on. I guess what I'm saying is that, basically, you need to **co-operate** with the others, and this new guy fails significantly in this respect.

Richard: Okay, I suppose you have a point there.

Richard: I tell you what, Tom, why don't we talk to our new flatmate, Anders, about these issues? If we throw him out, we'll have to go to all the trouble of finding another flatmate, who might not necessarily be much better. So, let's give the current guy a chance. Here. I've got a piece of paper, so let's make a short list of issues to discuss with him. Get it out into the open.

Tom: Sure. We'll give him one more chance. So, write, 'Communication', and let's tell him to ...

Richard: Well, we can't change a person's personality overnight, so why don't we have a weekly tenants' meeting, and we can just ask him to attend? That way we can get to know him better. I'll write 'attend meeting', and we can take it from there.

Tom: Okay, but we have to tell him about his friends. They can't just do whatever they want. Write a heading 'friends' and then write 'don't smoke, anywhere, inside or outside'.

Richard: Well, instead of being so direct, and possibly causing offense, I'll just write, 'follow rules', and verbally mention the rules: TV off by 10 pm, no loud music, or bad behaviour, including smoking.

Tom: Okay, do that, but I still think we need to specifically mention that last issue. You know how I can't stand the habit, so I'd like this to be another and separate point. Cigarettes! Strictly forbidden! And it's important to include the 'strictly' here. We can't pussyfoot around too much. Sometimes directness is necessary.

Richard: Okay, I'll write that... 'for-bidd-en' ... Okay. And what about cleaning duties? Anders is a little too relaxed about that. Dishes are sometimes not washed, dirty tea cups are left around the place, and so on.

Tom: So, write 'must do better!'

Richard: Yeahhhh, again Tom, he might take that personally, and it could cause a scene. I'd rather be general.

I'll write 'must be done' and I'll tell him that that's for everyone, not just him. Okay? Tom: Okay. As long as he gets the message.

## **SECTION 2**

You will hear a first-aid officer talking to a group of factory workers about emergency first aid.

Hello, everyone. Now, you know why I'm here. You all work in a factory, and in this environment, there always remains a significant possibility of accidents happening, in which case, first aid will be necessary. What is first aid? It is the provision of emergency on-site care when an injury occurs, and it is essential for everyone to know, if only simply, the steps which must be followed.

There are, of course, minor injuries which may happen, not needing further medical care beyond the intervention of the first-aider, but you can never be sure, thus the following steps must always he followed. These can be abbreviated to the words. 'Dr ABC''— in

other words. D — R— A — B—C. The 'D' stands for "danger", and that's the first issue to keep in mind. When an accident happens, immediately ascertain that the environment is safe — that, for example, nothing else will fall or break or cause accidents. If you, the first-aider, are also injured, the problem is even worse. The 'R' stands for "respond'. You must then ascertain the best response. Once all the danger has been eliminated, and the distress calls sent out, the appropriate action is, obviously, to help the injured parly.

Alright, that leads to 'A', which stands for "airway". In order to stay alive, all people need to have an open airway to allow breathing. A conscious person will automatically clear their own airway, but if unconscious, this may not happen. The brain is stopped or hindered from properly directing the body and, obviously, in the worst case, death can result, for this reason, the injured person is normally put into the 'recovery' position — placed on the side, tilling the head back, and ensuring that there are no blockages in the mouth. To free any such blockages, the back can be slapped, or the chest compressed, allowing anything to be spat out. Now that the airway is free, cheek for 'B' or 'breathing'. If breathing is not happening, or is irregular, the fust-aider may have to assist with what is technically known as cardiopulmonary resuscitation, or more commonly. C P R. This involves breathing for the patient, through mouth-to-mouth contact, while periodically massaging the heart through compressions to the chest. This combination allows blood, and oxygen, to flow around the body, keeping the patient alive, hopefully until medics, such as doctors, advanced first-aiders, or ambulance staff, arrive.

Now, it's certainly good to have know ledge of emergency fust aid. but. obviously, the best situation is simply not to have accidents occur in the first place, for that, you need to be aware of safety issues, but just saying "be aware' does not usually achieve much. It is more important to have an appointed person whose job is to ensure awareness and work-safety. Safely inspections would obviously be part of their job, whereby'they can make sure, for example, that the first-aid boxes are fully equipped. Another idea is to put posters on the walls, but. interestingly, research has proven that these lend to he ignored, becoming just part of the wallpaper—seen, but not put into practice. It is much better

if everyone is just instilled to not be reckless, that is,to not rush into situations without thinking about the possibility of accidents, and instilling this mindset is part of the job of the safety officer. Some other suggestions are ongoing first-aid training, and 'no accident' reward or star systems. These have had some success, but nothing beats a regular meeting, say, once a month, in which the subject of safety is brought to the attention of everyone, and any outstanding issues related to this are thoroughly discussed.

### **SECTION 3**

You will hear two students, Frank and Nicole, discussing their research on university waste.

Frank: Hi, Nicole. As you know, we've got to decide on the best ways this university can reduce its waste. You inspected the eastern campus, and I did the western buildings. Did you do all the interviews as well?

Nicole: Yes, I interviewed all the staff, who made some good observations, and I interviewed some of the students. The students said little that was interesting. They don't seem to care that much. It was the cleaners, surprisingly, who revealed the most relevant facts.

Frank: That's not surprising to me. They empty all the bins, so they see the waste firsthand, whereas the staff just throw things away without thinking. What item was most commonly disposed of?

Nicole: Well, it really depended on where I interviewed. In the cafeteria precinct, obviously paper plates and cups were thrown away all over the place. There was almost no attempt at recycling. However, across the university in general, it was paper copying that filled up most bins, far more than plastic, or other forms of waste.

Frank: Do people care about this, then?

Nicole: Well, some do, if you can believe them. I must have interviewed about 30% of customers in the cafeteria, and the results were mixed. Out of all the people I interviewed, well over half, maybe about 55% of them, were quite honest about it, telling me that they had little concern. The other fraction, 45%, were more troubled.

Frank: Yes, but do they do anything about it?

Nicole: Surprisingly, quite a significant percentage do do something, even if they aren't particularly concerned. I mean, small things. About 10% bring their own cups to the cafeteria, for example, and at least one third said they use recycling bins, so, in total, it's an equal split between those who do something, or those who don't.

Frank: So why do so many people remain inactive, particularly over an issue they should care about more?

Nicole: I think they do care, and many of them are prepared to do something. Obviously, there's an element of laziness, but I'd say that it's relatively small. If they knew what to do, and if stringent systems existed, or if the importance of this was made clearer to them, I'm sure you'd see a much larger percentage of people actively working towards helping our environment.

Frank: Well, there's cause for optimism, at least.

Frank: Clearly then, there's a significant waste of paper here at this university, so I've worked out one practical suggestion which could help reduce it —specifically, the waste from the excess photocopying.

Nicole: Let me hear it, then.

Frank: Ah obviously, for a start, we've got to ensure that people, including the staff, without exception, copy both sides of a page. We can't tolerate single-sided copying. It's just far too wasteful.

Nicole: Absolutely. Just more trees being chopped down.

Frank: But as people are doing copying, there may be adjustments, and practice copying, producing singlesided copies or blank pages not wanted and not intended for use. These need to be deposited into a tray for intended recycling —you know, for recopying onto the blank side of the page.

Nicole: But people don't usually do that. I'm afraid it's just human nature. No matter how unimportant the copying is, they prefer to use fresh paper.

Frank: Yeah, I agree with you, which is why you need to display these papers right in front of everyone, with a clear sign, 'Please Reuse', to make it easy for them to do so.

Nicole: They still won't do it.

Frank: I know. That's why you take some of these papers, and regularly stack them inside the copier, in a special tray, once a day—say, in the morning.

Nicole: Well, that's getting better, making it easier for them to use the paper, but still, I'm afraid many won't.

Frank: That's why you allow everyone to select this tray when

copying. You distribute numbers or codes to every person, giving them special access to this recycling tray. Every time they use papers from this, it's tallied up to their account.

Nicole: I know I'm sounding a bit negative ... or even cynical here ... but why should they bother using that tray?

Frank: Because the person who does the most copying from this recycling tray gets, say, a cinema pass, or lottery ticket, or some other sort of reward.

Nicole: Ah, right! Now that's a system which might just work. Let's trial it in the office and see what happens.

## **SECTION 4**



You will hear a lecturer discussing techniques for removing carbon dioxide from the atmosphere.

We all know about the role of carbon dioxide in causing global warming. Obviously, society needs to reduce the release of carbon dioxide, otherwise known as CO2. This gas comes from the burning of fossil fuels, such as coal and oil. and it is virtually impossible for society to prevent, or even limit such activity. Our need for energy and power is just too great. Instead, a more practical idea is to collect the carbon dioxide from the burning process, for example, directly from the chimneys of power stations, and somehow prevent this gas from being released into the environment. To do that, you need to store it somehow, and that has to be essentially forever.

It is perhaps for this reason that main believe that, rather than storing the carbon dioxide as a gas, it is better to react it with metal oxides, such as magnesium or calcium, which results in the formation of a hard carbonate material. The gas is, in effect, turned into a stable and unreactive solid, which can simply he dumped anywhere. This process actually occurs naturally, although very very slowly, and is one cause of the surface limestone in the world. But this slow reaction speed is the problem. Even when enhancing this process through high temperature and pressure, or pre-treatment of the mineral, it is still far too slow to be economical.

One other technique which has been suggested is to pump the gas lo the bottom of the ocean, where it would react with compounds in the seawater, forming carbonic acid. However, this alternative has now been ruled out. The CO2 may be removed from the atmosphere, but the high oceanic acidity which would result raises its own set of problems, mostly with all the delicate life and the intricate food chains in the seawater, some on which we ourselves depend -- and that's something which no one wants to experiment with.



Perhaps because of the lack of alternatives, the most commonly discussed solution to the problem of disposing of carbon dioxide is to pump the gas underground - a technique known as 'geosequestration'. In this system, the CO2, for example, could be pumped into underground pockets within depleted oil wells, or disused coal tunnels. This carries, however, three serious disadvantages, namely: the risk of leaks, the considerable costs involved, and finally, the unproven effectiveness. Let us look at those three disadvantages in detail.

Firstly, there is the risk of leaks. Although the gas would be deep and sealed over by masses of rock and earth, the huge pressures in these spaces would turn the gas into a liquid stale, capable of moving through rock fissures or faults. This could allow the gas to eventually be released to the surface. Since CO2 is heavier than air, and thus pushes oxygen aside, such leaks could result in the suffocation of thousands, or tens of thousands of people — certainly not a consequence to be taken lightly. Natural CO2 leakage from volcanic build-up has already witnessed such deadly events.

The other problem of geosequestration is the cost. The time and effort spent on materials and construction, primarily the pipework through which the gas would travel, does not come cheaply. So, if this system were to be implemented in, say, coal-tired power plants, the extra cost would have to be paid by the electricity user, whose bills would almost double as a consequence. Few people are prepared to pay this much simply to make a small dent on the effects of global warming. And this leads to the final problem.

The most basic question is whether geosequestration actually reduces global warming. The problem here is that the energy needed to create and drive the sequestration process would require approximately a quarter of a coal-fired electricity plant's output. In other words, the plant would have to burn one quarter more of its coal just to account for the sequestration of the carbon dioxide, and with coal producing other noxious pollutants, such as sulphur, ash, and heavy metals, the environment is hardly benefited at all. Nevertheless, there are many active experimental efforts underway, primarily in oil production sites. These are small but intensively monitored and analysed. All we can say now is that the jury is still out on whether underground carbon storage will one day be feasible.